Nature Trails

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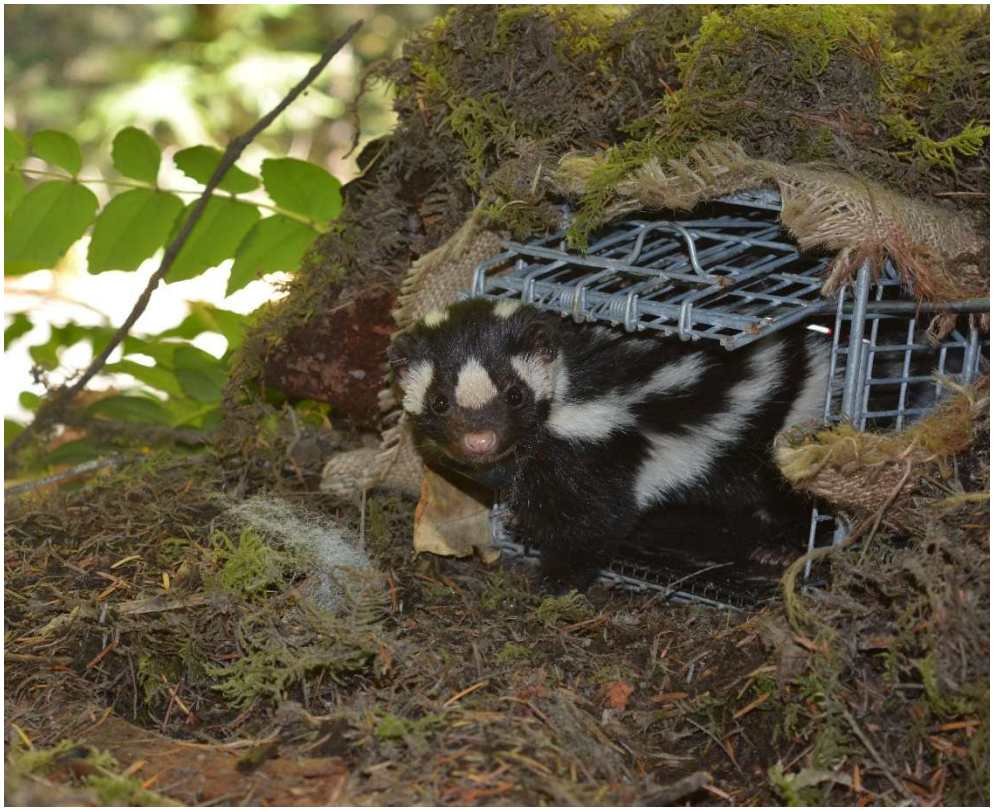
The Eugene Natural History Society is based out of the traditional homelands of the Kalapuya peoples, most of whom are citizens of the Confederated Tribes of Grand Ronde and the Confederated Tribes of Siletz Indians. These Indigenous people stewarded this land for millennia and continue to play an active role in local communities. We commit to supporting the many Tribes and Indigenous scholars and organizations working to shape the future of these lands and waters that we mutually cherish.



Western spotted skunk release, H.J. Andrews Experimental Forest. *Marie Tosa*

The Curious World of a Stinky Neglected Carnivore

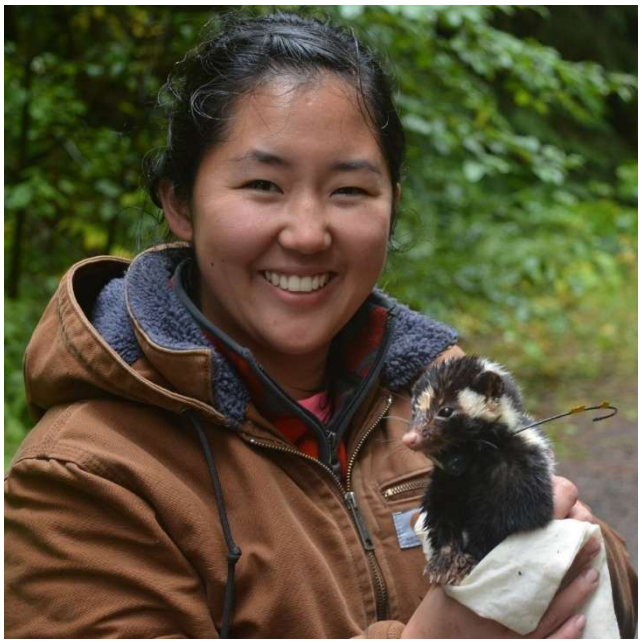
Marie Tosa

Washington Department of Fish and Wildlife

Friday, 16 January 2026, 7:00 pm

This month's meeting will be a hybrid of in person and real-time Zoom. The in-person lecture will be held at **7:00** in **221 Allen Hall, University of Oregon campus. Snacks provided!** The Zoom lecture link is https://zoom.us/j/97499095971?pwd=eE9sdG9hSHMvOHhIUEJuU21wT20rdz09 or see our website at https://eugenenaturalhistorysociety.org/

This Month's Speaker: Marie Tosa



Dr. Marie Tosa grew up in Boston, the daughter of two academics. Both parents have PhDs in physics; her dad worked as a software engineer, and her mom got a second doctorate while Marie was in high school and is now a professor in science education. Marie became interested in the natural world when she was a kid playing in the backyard with cicada exoskeletons. In high school, she had the opportunity to study bats in urban and suburban environments with Dr. Thomas Kunz, a world-renowned bat biologist and professor at Boston University.

For college, Marie chose New York University, with majors in biology (graduating with honors) and environmental studies and a minor in business studies. She received her master's degree from Southern Illinois University, Carbondale and her PhD in Wildlife Science in 2023 from Oregon State University. She chose those two schools because of the research projects that were being advertised when she was looking for graduate positions. Both schools were very well regarded and had advisors who were at the cutting edge of their fields.

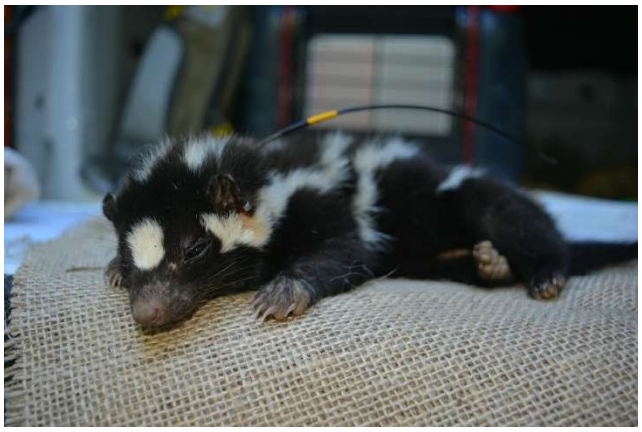
Marie's PhD project at OSU had two parts: (1) a study of networks of organisms living in Pacific Northwest forests and (2) a more in-depth study of western spotted skunks: their food, their predators, where they live, and how land use (including logging) impacts their populations. She is interested in research that informs conservation and management and wanted to understand the natural history of wild animals that have typically been neglected or understudied.

Her field work at the H.J. Andrews Experimental Forest (near Blue River, OR) began in April 2017 and continued until August 2019. She started a blog "Skunk Tales" in June 2017 (https://maasroite.wixsite.com/skunktales) to document the work of the Carnivore Crew (Marie and colleagues) and to share their journey with the general community around Blue River and McKenzie Bridge. In addition to spotted skunks, the crew was interested in short-tailed weasels and long-tailed weasels.

To study these elusive nocturnal predators, the crew set up 136 camera traps, a noninvasive sampling method that allows researchers to minimize direct contact with the study animals, thus reducing the influence that the presence of researchers might have on these species. The camera traps were baited with cat food or sardines. In addition to skunks, the "bycatches" from the camera traps included bears, flying squirrels, and turkey vultures. It seems like any and all animals in the woods were drawn to the easy protein. Flying squirrels and mice, who you would usually think of as herbivores, were eating the sardines and even the dead house mice the researchers provided.

To gather the more in-depth data the crew were looking for, they set up camouflaged live traps baited with sardines. At a successful capture site, a crew member would squash the captured skunk in the back of the trap with burlap and use a hand-held syringe to inject the hind quarters with ketamine, a dissociative anesthetic commonly used for cats. It takes a few minutes for the ketamine to work its magic, so the crew would unsquash the skunk, close the trap, and wait back at the truck for the skunk to fall asleep. Vital statistics were recorded for the sleeping skunks, who were then fitted with radio collars and returned to the trap to sleep off the effects of their experience. Skunk release was always a fraught moment. Usually the skunks would scamper away, flashing their white tail

tips. Occasionally they would aim a parting shot at an unlucky crew member. (See below for the Sacred Deskunking Recipe.)



Western spotted skunk with radio collar. *Marie Tosa*

The crew captured a total of 35 individual skunks over the course of the study and usually were monitoring 10–15 collared skunks at a time. This radio telemetry approach allowed the researchers to follow individual animals to determine where the skunks moved throughout the day, the size of their home territories, whether they preferred open space or dense forest with logs and ferns for hiding, and whether they utilized the old-growth trees or stumps from old logging operations for resting places during the day.

To find out what these tiny nocturnal predators (only 1–2 lb!) were eating and what was eating them, Marie collaborated with the group Conservation Canines to find scats so she could use DNA analysis to determine who was eating what. Skunk and weasel scats are small, and these animals defecate in hard-to-find places such as under or inside hollow logs and in live trees. But even the noses of the scat-detecting dogs were having trouble finding skunk scats. When the team was able to track collared skunks to their resting sites, the dogs could be guided to targeted areas to search for scats.

When one of the radio collars started emitting a mortality signal, genetic evidence collected at the kill site revealed that a barred owl had killed and consumed the skunk. From the looks of that kill, the researchers concluded that other skunks that died while being tracked also were killed by owls, as happens in other parts of the country. Other nongenetic evidence suggested that the spotted skunks at H.J. Andrews also were being killed by mammalian carnivores, most likely bobcats.

Marie is currently a research scientist with the Wildlife Program of the Washington Department of Fish and Wildlife. She summarized her presentation this way:

> "I will be speaking about the natural history of the western spotted skunk and the interesting things I have been able to learn by following them around in the forest. Western spotted skunks had previously been described as needing old-growth forest, so my talk will also touch on the importance of old-growth trees and how [skunk habitat needs] intersect with current forest management strategies."

Sacred Deskunking Recipe

Combine these ingredients:

- 1 qt of 3% hydrogen peroxide
- ¼ cup of baking soda
- 1 tsp of Dawn dish soap
- Water (optional)

Dunk and lather all skunked items and body parts thoroughly in this solution. Scrub well! Repeat until your nose has gone blind. Don't bathe in tomato juice! It will just mask the scent for a few hours, and you'll be dealing with the problem later!

Join us on Friday, 16 January at 7:00 pm in room 221 Allen Hall on the University of Oregon campus to learn some other skunky things. The cookies also will be there.

If you can't join us in person, connect with us on Zoom: https://zoom.us/j/97499095971?pwd=eE9sdG9hSHMvOHhIUEJuU21wT20rdz09 or join from our website at https://eugenenaturalhistorysociety.org/

—Kim Wollter

The Lost Bees of Oregon's High Desert

by August Jackson

Among virtually all organisms, a fundamental truth in community ecology is that some species are naturally more common than others and most individuals in a community are representative of a comparatively few dominant species. In a given community, most species will

be relatively uncommon, and a sizeable proportion will be truly rare. Some of these rare species are likely to be at risk of extinction, and reliable detection has posed a serious challenge for surveying and directing conservation efforts.

Ecologists have developed a good understanding of the methods and effort required for the detection of many vertebrate species. We know, for example, how to detect marbled murrelets and spotted owls with enough success that we can have a high degree of confidence that absence of detection means true absence in the environment. It is a different story with invertebrate communities, where the challenges of detectability can mask the true relative abundance of a species or create the appearance of population declines. Because of their small body size, short active period, limited dispersal, and restricted geographic range or habitat specialization, many invertebrates can be difficult to find.

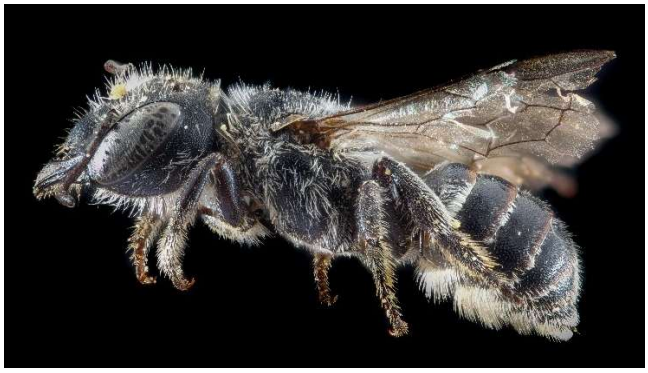
Our knowledge of bees in western North America is still developing. For hundreds of species, we know little about their natural history, including the full extent of their geographic ranges, habitat requirements, phenology, and floral associations. Many species remain to be discovered, described, and named. Dozens of species are known from only one sex, have been documented fewer than 20 times, or have not been seen in decades. In an attempt to catalyze the search for rare and possibly extinct species, in 2022 conservation scientists formalized the term "lost" to describe species that have not been documented in more than 10 years. Our lost bees (of which there are many) are likely truly rare, but whether that rarity is a cause for concern is currently not possible to assess.

Rediscovering a lost bee often seems to be a combination of looking and luck, with a heavy emphasis on the latter. Oregon State University Extension Service Master Melittologists with the Oregon Bee Atlas have found many lost bee species as a result of an unprecedented statewide survey effort. Some of these rediscovered species are more extraordinary than others.

In 1904, Edward Titus described a species of mason bee from a single male specimen collected by the entomologist William Ashmead in the vicinity of The Dalles, OR. Titus named the species *Acanthosmiades* (now *Osmia*) *ashmeadii* after the collector and described this distinctive bee as having grotesquely swollen hind legs and flattened antennae. Taxonomic uncertainties and cryptic, difficult-to-identify species can create the illusion of rarity—when we can't reliably distinguish between two or more similar species—and some may go undocumented for years due to an inability to recognize them. There are likely more than 80 species of mason bees in the genus *Osmia* in Oregon, and about a third of them are extremely difficult to identify, particularly the males. The male of *Osmia ashmeadii* is perhaps the most recognizable of any species in the genus, but it hadn't been documented for 120 years simply because it had not been found.

By custom, taxonomic descriptions are generally rote and uninspiring, and as was common at the time, Titus's description was also neither thorough nor particularly evocative. I am less restrained, and a whole host of colorful adjectives flooded my mind when I viewed a specimen under the microscope in April of last year, one of dozens caught by Dan and Michael O'Loughlin, brothers who have been dedicated volunteers with the Oregon Bee Atlas since 2018. Not only do we now know that *O. ashmeadii* still exists, but the species was found in two separate locations in the eastern part of the state, expanding its known range and giving us clues about where else to look for it and where to finally discover a female.

Not all of our lost bees have been missing for so long, but some are no less mysterious. Charles Michener, the leading world expert on bees until his death in 2015, revised the small mason bee genus *Ashmeadiella* (also named after Willliam Ashmead) in 1939. In his manuscript, Michener described a new species from Burns, OR, which he named *Ashmeadiella sculleni* after the collector, Herman Scullen, a pioneering entomologist at Oregon State University. At about 1 cm in length, the bee is huge for a member of its genus. Since the first two female specimens were collected in 1927, the species had been seen fewer than 10 times. However, they were discovered across a broad geographic range as far east as Colorado, suggesting that this species would be found a bit more frequently if it were looked for.



Ashmeadiella sculleni. August Jackson

At the turn of the Summer Solstice last June, I led a small group of Master Melittologist volunteers to a fault-block mountain in southeastern Oregon on a hunt for bees. We had been watching the weather forecast worsen through the week, and by the time we arrived we looked to have only 5 hours of favorable weather. In charred soil at the tail of a ravine where the prior summer's large fire had flamed out, several peregrine thistles and a single showy penstemon bloomed. We spent a half-hour collecting bees here, partly shielded from the winds that were picking up and ushering in the weather system that would drop the temperature into the low 40's the following morning. One of the bees we caught here was *A. sculleni*. In recent years Master Mellitologist volunteers have found the species in other locations on the east side of the state, including Hells Canyon and Christmas Valley. In fact, more specimens have been collected in the past 2 years than in the previous 100. Despite some incremental growths in our knowledge of this species, we really don't yet know why we find it where we do, and the male is still unknown.

In many cases, when we rediscover bees, we also discover new natural history information that allows us not only to find them again but to predict where else we might find them. We have determined, for example, that the small mining bee *Calliopsis phaceliae* (not recorded since 1995) isn't associated with scorpionweeds in the genus *Phacelia* broadly but is specialized for collecting pollen from a subgroup of related *Phacelia* species in the section *Miltitzia,* which tend to grow in sandy and/or alkaline habitats. Bee research is undergoing a renaissance in the Pacific Northwest, but this situation will last only as long as interest and funding can be sustained. For bees such as *O. ashmeadii* and *A. sculleni,* so much basic natural history remains to be learned that we risk losing them again.

Save the Date!

ENHS Field Trip to Oregon Institute of Marine Biology (OIMB)
Charleston, OR
27 to 29 March 2026

We are returning to the OIMB for this late winter field trip! Possible activity options: tide pools near Cape Arago, estuary birding, Charleston Marine Life Center, and walks at South Slough Reserve/South Cove, Golden and Silver Falls State Natural Area, and Bastendorff Beach. Carpools will be arranged for traveling to Charleston and for any side trips.

Space is limited to 20 participants. We have reserved five cottages and will have access to a large gathering area. All cottages have kitchens, so we will bring food to make our own breakfasts and lunches, with potluck meals on Friday and Saturday evenings.

Cost: Lodging is an amazing $53/person for the two nights (because we will be providing our own food).

Watch for more details and open registration dates in the next issue of *Nature Trails*.

Stay tuned for information on an upcoming field trip, probably in February or March!

In September we joined Joe Moll to visit the MRT restoration project at Quartz Creek. Then it was dry, but now it's wet! As the rains have filled the rivers and creeks, we want to see how well the project is working.

Upcoming Events

(for complete listings and details, see individual websites)

- **McKenzie River Trust** https://mckenzieriver.org/events/#event-listings or 541-345-2799
  Wednesdays, 9–11:30am. Watershed Wednesdays at Green Island. Projects include invasive species removal, habitat care, planting, and tree establishment. Sign up
  First Fridays, Oct.–June. Explore the Willamette Confluence. See the MRT website for more information.
- **Native Plant Society of Oregon, Emerald Chapter** https://emerald.npsoregon.org/
  Anytime. Self-guided Tour of Laurelwood Bog. Go south on Agate St in Eugene to the dead end at 29th. The entrance to the Bog is clearly signed, and the trails are covered with bark.
  Monday, 19 Jan., 7–9pm. Street Trees of Eugene. Presenter: Erik Burke, from Friends of Trees. Amazon Community Center, 2700 Hilyard St., Eugene.
- **Mt. Pisgah Arboretum** https://mountpisgaharboretum.com or 541-747-3817.
  Sunday, 18 Jan., 9am–noon. Upper Trail Work Party. Join us for annual maintenance on the Upper Plateau Trail, including resurfacing, brushing out, tread work, and clearing ditches. No experience necessary. Tools, gloves, and parking passes will be provided. Bring your own water. Meet at the lower level of the parking lot. For questions, contact Patrick Wegner: habitat@mountpisgaharboretum.org or 541-321-6436.
  Sunday, 8 Feb., 9–11:30am. February Bird Tour. Join Mieko Aoki and Julia Siporin for another monthly bird tour intended for people with all levels of birding experience. We'll use vocalizations, habitat, and behavior clues for identification of our year-round and winter residents. Please bring binoculars. Meet at the Education Center, rain or shine. Don't forget your parking pass. Limited to 18 attendees. Fee $5, FREE for Arboretum members. Preregistration required. Click here to register.
- **Coast to Cascades Bird Alliance** www.laneaudubon.org or 541-485-BIRD; maeveanddick@q.com or 541-343-8664
  Saturday, 17 Jan., 8–11am. Third Saturday Bird Walk. Meeting place TBD. For more info, contact Lalla at tolalla@gmail.com or check the CCBA website or Facebook page.
  Tuesday, 27 Jan., 7–9pm. How to Not Get Eaten, or How to Not Be Someone's Dinner. Presenter: Debbie Schlenoff. Campbell Center, 155 High St., Eugene.
  Saturday, 7 Feb., 8–11am. First Saturday Bird Walk. Designed to hold intentional space for women, BIPOC, and LGBTQIA+ birders. Birders of all levels and backgrounds are welcome, particularly those who may have felt intimidated at the thought of birding alone or on other guided walks. Location and leader TBA. For more info, contact Sarah: 1satbirdwalks@ccbirdalliance.org.
  Tuesday, 24 Feb., 7–9pm. Breathless: Celebrating Salamanders and Their Small Wild Spaces. Presenter: Tom Titus. Campbell Center, 155 High St., Eugene.
- **Museum of Natural and Cultural History, University of Oregon** https://mnch.uoregon.edu/museum-home
  Ongoing exhibits: Oregon—Where Past Is Present; Explore Oregon; Roots and Resilience: Chinese American Heritage in Oregon.
  Saturday and Sunday, 17 and 18 Jan., 10am–5pm. ReEnvisioned: Contemporary Portraits of Our Black Ancestors by Jeremy Okai Davis. Meet Oregon's early Black pioneers through colorful portraits that commemorate the role of these pioneers in shaping our state and prompt us to consider how we remember our collective history.
  Saturday, 26 Jan., 2–4pm. Rumblings: Preparing for Cascadia. This documentary explores the imminent threat of another large Cascadia earthquake and tsunami. The film delves into state and local efforts and the proactive measures taken by individuals and families. The screening will be followed by an informal discussion with director Brian Landon and local emergency management specialists who are featured in the film. Art House, 492 E. 13th Ave., Eugene. FREE.
  Thursday, 12 Feb., 6pm. The Past Is Key to the Future: Oregon's Fossil Rodents and the Impacts of Environmental Change. Paleontologist Samantha Hopkins explores how changes recorded in Oregon's rich fossil record help us understand the ecological impacts of environmental change.
- **Nearby Nature** https://www.nearbynature.org/ or 541-687-9699, 622 Day Island Rd., Eugene (Alton Baker Park)
  Monday, Wednesday, Friday mornings. Wonder Keepers. Preschool program outdoors in our Learnscape.
  Tuesdays and/or Fridays afternoons. Natural Neighbors. After-school program outdoors in our Learnscape.
- **Lane Country Butterfly Club** https://www.lanebutterflies.org (new website)
  Thursday, 12 Feb., 7:15–9:00pm. Fenders Blue Butterfly. Presenters: Sophie Linden and Christine Calhoun. Learn about recovery efforts in and near west Eugene wetlands. Hilyard Community Center, 2580 Hilyard St., Eugene.

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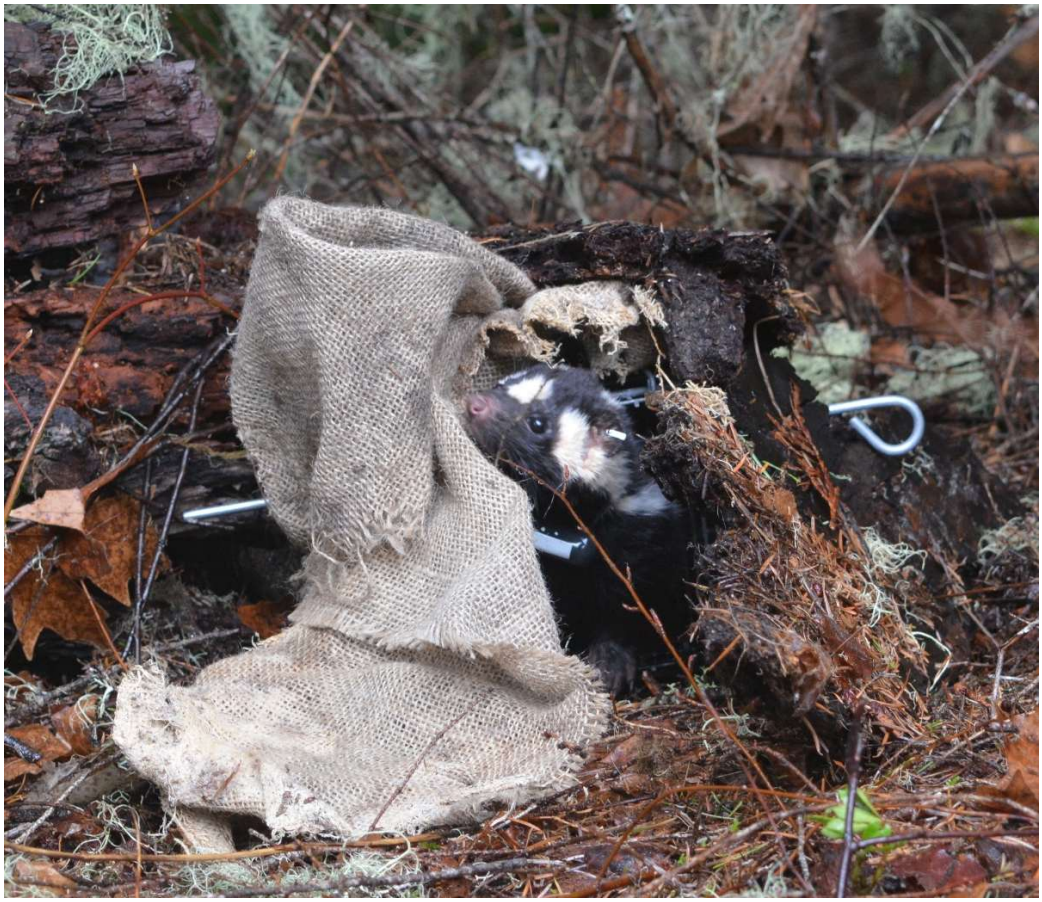

Western spotted skunk. *Marie Tosa*

Eugene Natural History Society
P.O. Box 5494
Eugene, OR 97405

Monthly meetings:
When: September–May: third Friday; December: second Friday
Where: 221 Allen Hall (UO campus) and/or on Zoom at https://zoom.us/j/97499095971?pwd=eE9sdG9hSHMvOHhIUEJuU21wT20rdz09
Time: 7:00 pm
Parking for UO events is available at the UO Physical Plant lot: From Franklin, turn north onto Onyx, go 1 block to the lot. After 6pm, it's open to the public.
See our website for more details.
http://eugenenaturalhistorysociety.org/

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2025–2026 Speakers and Topics

19 Sept.	**Joe Moll**	**The Audacity of Perpetuity: Land and Water Conservation in Uncertain Times**
17 Oct.	**Jamie Cornelius**	**Amazing Adaptations: How Birds Survive Stormy Weather**
21 Nov.	**Matt Betts**	**Can We Have Our Cake and Eat It Too? Conserving Forest Biodiversity in the Age of Humans**
12 Dec.	**Paul Bannick**	**A Year in the Life of North American Woodpeckers** (cosponsored with the Coast to Cascades Bird Alliance)
16 Jan.	**Marie Tosa**	**The Curious World of a Stinky Neglected Carnivore**
20 Feb.	**Leif Karlstrom**	**Giant Aquifer of the Cascades**
20 Mar.	**Anne Thompson**	**Marine Microbiology and Ecology**
17 Apr.	**Heron Brae**	**Oak Savannah Communities** (cosponsored with the Emerald Chapter of the Native Plant Society of Oregon)
15 May	**Samantha Hopkins**	**The Relationships among Paleontology, Climate Change, and Extinction**