



Nature Notes



VOLUME 31, NUMBER 1, WINTER 2026

PAJARITO ENVIRONMENTAL EDUCATION CENTER, LOS ALAMOS, NM

A Letter from the Director

Dear PEEC Community,

As we close out our 25th anniversary year, I am filled with gratitude for the incredible community that surrounds and sustains PEEC. Each season brings new opportunities, and what remains constant is the dedication, creativity, and generosity of the people who believe in our mission. It is because of you that we continue to thrive and grow.

This year has been both transformative and celebratory. We launched new programs to connect people more deeply with nature, expanded our educational offerings, and strengthened partnerships across the region. From trail walks and citizen science projects to festivals and workshops, curiosity and wonder spark lasting connections. These moments remind us that our work begins with fostering a community where everyone feels welcome and inspired.

Thanks to your steady support, PEEC remains a place where people of all ages can discover the natural world. Whether it's a child seeing the stars in the planetarium for the first time or a family exploring a new trail together, your generosity makes these experiences possible. This year's Annual Fund Drive theme, "Looking Forward, Together: Our work and our impact go on," captures our vision perfectly.

The need for strong environmental education and meaningful experiences in nature continues to grow, and with your help, we can continue inspiring curiosity, connection, and care for the environment.

None of this would be possible without you. Every time you attend an event, renew your membership, share a story, or invite a friend to join, you help us grow stronger. Together, we're shaping a community rooted in connection, stewardship, and hope.

Thank you for being such an essential part of our story. I am honored to serve as your director and look forward to another year of discovery, connection, and growth.

Warmest regards,

Jillian Rubio, PEEC Executive Director

PEEC's Herbarium Discovers New Species of Native Plant

By Chick Keller, Herbarium Director

In the year 2000, a graduate student at the University of Wyoming was tasked with collecting as many plants in the Santa Fe National Forest as possible. While some of that area is in the Sangre



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de Cristo Mountains, most of it is in the Jemez Mountains.

When finished in 2002, he had collected, identified, and mounted on herbarium sheets all the plants found: three boxes containing some 1,100 sheets of plants. He gave one set to the herbarium at the University of New Mexico in Albuquerque, one set to the University of Wyoming, and the last to those in charge of the Santa Fe National Forest. They weren't sure what to do with them, but Craig Allen told them to send the boxes to the Pajarito Environmental Education Center (PEEC).

And so, our nature center—down on Orange Street at the time—suddenly became the proud collector of most of the species in our nearby area. With the financial help of the Native Plant Society of New Mexico and several community members, we raised enough money to purchase a professional herbarium species cabinet, a binocular microscope, and a set of plant identification volumes. And so began PEEC's own herbarium.

Los Alamos County had named some 650 species. Today, Los Alamos County has collections of about 1,050 species. In addition, volunteers have found over 200 unknown species in the Jemez! Each year, people find more and bring them into the nature center.

During the time of the herbarium's formation, I became interested in a particular genus of yellow sunflowers. They were small, never more than two feet tall and comprised about ten species, some of which were difficult to identify. So I began collecting these in north central New Mexico—the Jemez Mountains including the Valles Caldera National Preserve and San Pedro Parks—as well as places in the Tusas Mountains towards Chama. And thereby hangs a story!

Of these several species, two in particular in the *Packera* genus interested me: *Packera crocata* and *Packera dimorphophylla*. The genus, was named for a botanist named



Chick Keller Looking Through New Species
Photo Credit: Casey Lundberg

Packer. *Dimorphophylla* simply means two differently shaped leaves—those at the base of the plant and those upwards on the stem. These two were similar and common in Colorado. They are found in open wet meadows (you often get your feet wet when walking in them). You can often find an entire field full of them. I began collecting several from each area I found. Upon looking at them back at the herbarium, I noticed that most had a specific shape that did not look like either of the *Packera* species. And further, a few in each location looked much like the two species above!



Having collected in seven areas, I began counting and found that over 80 percent were the new-looking variety. The other plants found in these locations with different types of basal leaves (the leaves on the lowest stem) accounted for the rest. The authorities on such plants had lumped nearly all as *Packera crocata*. This despite the fact that true *P. crocata* is taller and has orange flowers while these all had yellow flowers.

The species had probably hybridize, adding to confusion in naming them.

It turned out similar yellow-flowered plants had been

found in the La Sal Mountains in Utah above Moab and named a new variety of *P. dimorphophylla* variety *intermedia*. The author remarked that he gave it that name but didn't really know what to call it.

Upon comparing our mystery plant with the species from Utah, I noticed that the basal leaves on the Utah specimens were spoon-shaped. Whereas our specimens' basal leaves were very small, almost vestigial. To make a long story short, I decided that our mystery plant was an entirely new species centered in north central New Mexico. To confirm this, I decided to do DNA studies and get some professional help. I found Ross Macauley, a professor at Fort Lewis in Durango, who was also interested in *Packera* and did minor DNA studies. We compared my "new" species with collections of the other two, but the results were inconclusive, so we needed more detailed DNA studies.

Luckily, we found a post doc who had a grant to perform expensive, detailed DNA studies. We sent her ten collections that would compare my "new" species with the other two. The results were conclusive.

My new plants were clearly a new species. And so, we named it *Packera intermedia*, thus elevating the Utah variety to full species status. The paper appeared in June in the *J. Bot. Res. Inst. Texas*.

In the Fall, I visited the huge herbarium at UNM and annotated all their collections that had been called *P. crocata*. All but three were my new species. Not only had we found a new species, but in doing so we showed that *P. crocata* is extremely rare in New Mexico.

Our little herbarium has contributed to several other taxonomic problems in the state, such as finding a sedge south of Chama only known in Navajo country in the state's far west, and a small

sunflower-like plant called *Arnica fulgens*, again only found in the northwest of the state.

It also helped Craig Martin and Terry Foxx write their four-volume books on *Plants of the Jemez Mountains* which help others know what's blooming in the Pajarito Plateau. It is great fun collecting and contributing to the botanical knowledge of New Mexico.

Come see PEEC's herbarium! Learn more about what we do and perhaps help find new plants. 📍

Herbarium visits are by appointment only. To schedule a visit, please contact Chick Keller at alfonso@cybermesa.com or 505-690-3993.

Book Review: Night Magic

By Ed Santiago, PEEC Board Member

With the solstice approaching, it's traditional to moan about short days and dark evenings. We love our outdoors, and to really appreciate it, we need our sun...our daylight...don't we?

For many animals, plants, and fungi, dusk is when the going gets good. Some we're mildly aware of (owls, bats, moonflowers), but for the most part, we humans are oblivious to the remarkably rich life taking place around us while we bumble about in our cocoons of light. In *Night Magic: Adventures Among Glowworms, Moon Gardens, and Other Marvels of the Dark*, Leigh Ann Henion offers us tantalizing glimpses into that world and invites us to experience it for ourselves.

The book is roughly organized by season, each with chapters diving deep into specific wonders. Its focus is entirely regional—driving distance from Henion's North Carolina home—which I have to confess imbued some of the chapters with a touch of wistfulness: fireflies, glowworms, and foxfire (bioluminescent fungus) sound so enchanting! How I'd love to see them! But that's just my inner greedmonster talking—we have so much to appreciate right here. Owls;



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salamanders; bats; moonflowers such as primrose; each gets a full chapter with loving attention and new information even for those of us who were already fans. One big surprise: moths. Wow. I find myself with a newfound appreciation for these overlooked but essential community members.

The last chapter shifts away from life forms—from biological life, at least. Henion covers humankind's longtime night companion, fire: how we learned to use it, live with it, rely on it. She even learns to create an ember using a bow drill and foraged organics. This is a roller coaster of a chapter in which the reader shares her uncertainty, exhaustion, frustration, and finally her overwhelming sense of accomplishment...followed by humility. We take so much for granted.

Throughout the book she describes the harms inflicted by outside lighting. Harm not only to our kin creatures and ecosystems but to our own selves: depression, diabetes, and cognitive decline have been linked to nighttime light exposure. Her voice is neither scolding nor alarmist, simply concerned—with good reason—and trying to

increase our awareness.

These next few months could be an opportunity to reacquaint ourselves with night, to reframe the short days as a gift. We "still don't think of night as a place of abundance rather than scarcity," Henion writes. Can we start shifting our mindset? What abundance will we discover when we step outside with our headlamps off? 🦉

In loving memory of Tam T. Salamander, longtime PEEC ambassador.



The One Los Alamos Book Club meets every other month at the nature center. <https://linktr.ee/OneLosAlamos>

Our Winter Skies

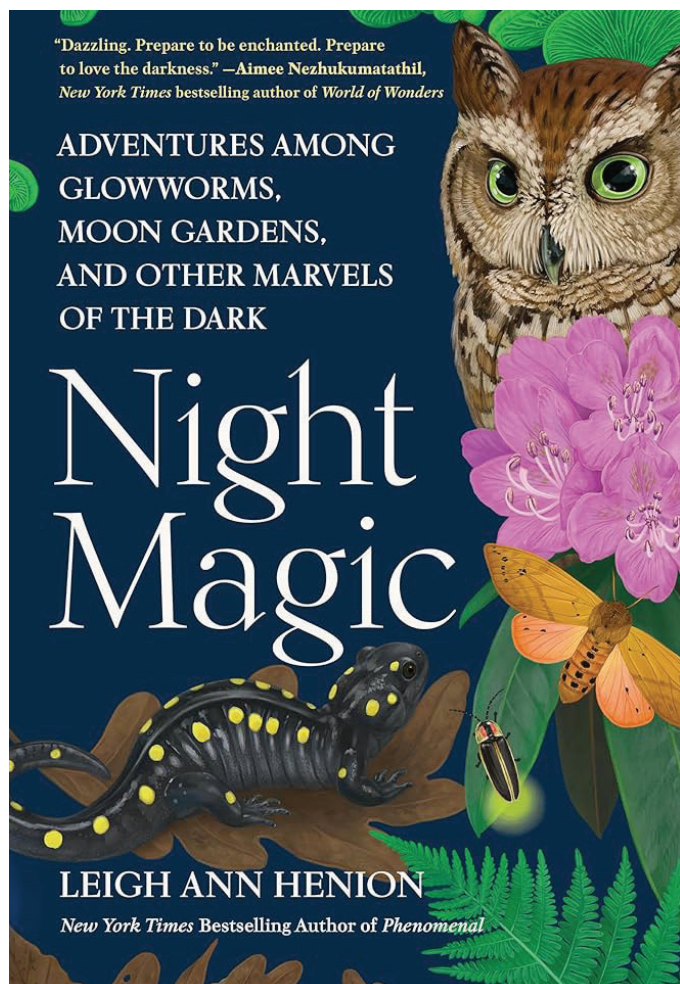
By Galen Gisler, PEEC Planetarium Volunteer

Winter brings us the sky's strongest concentration of bright stars, in particular the Winter Hexagon, centered on Betelgeuse in Orion's left shoulder. Counterclockwise starting with Rigel in Orion's right foot, we have Aldebaran in Taurus, Capella in Auriga, Pollux (and its twin Castor) in Gemini, Procyon in Canis Minor, and finally the brightest star in the sky, Sirius in Canis Major. This asterism of bright stars is warm consolation for the cold of winter's nights. And don't forget to look at that fuzzy blob below Orion's belt—the Orion Nebula, a treat even in a small telescope.

The Hexagon is centered on Orion, everyone's favorite constellation, the mighty hunter of Greek mythology who lusted after the seven sisters of the Pleiades. The goddess Artemis, protector of the seven sisters, sent Scorpius to kill Orion, and Zeus placed them in our sky. We won't see Scorpius again until Orion retreats into the west next May.

These enemies are at opposite ends of the band of light that we call the Milky Way. Scorpius (next to Sagittarius) pointing the way to the center of our galaxy while Orion lends its name to the Orion Arm, a minor spiral arm on the outskirts of our Galaxy that just happens to include our solar system.

The Milky Way is harder to see in the winter, but from a dark site, it is still there. Use the Winter Hexagon to find it: Betelgeuse, Capella, and Procyon straddle the plane of our Galaxy. Follow it to the West through Mirfak, the brightest star in Perseus and the naked-



eye Double Cluster, then through Cassiopeia, the queen whose chair sits right atop the Milky Way.

This winter, the Hexagon will be distorted by the planet Jupiter, between Procyon and Capella and much brighter than either. Jupiter's opposition, when it is opposite the Sun from the Earth, occurs on January 10th. Saturn's opposition occurred in September, so for a little while we've had the two bright outer planets in our evening sky. By the middle of February, Saturn will have set, along with Neptune. Uranus is still high in the sky, close to the Pleiades, if you care to look for it with binoculars or a telescope. Venus disappears from our morning sky in January; look for it to show up again in the evening sky in June. If you have a clear Eastern horizon, you may get chance to see elusive Mercury in the morning sky in early February. Mars will start showing up in our morning sky in March.

Periodic comet 24P/Schaumasse will be a morning object through most of the winter, brightest in early January. The interstellar comet 3I/Atlas (not an alien spacecraft!) will also be



*Orion Nebula Taken with Seestar S30 Telescope
Photo Credit: Galen Gisler*

BACKCOUNTRY FILM FESTIVAL



THURS, JAN 22

DOORS OPEN 6 PM

FILMS START 7 PM

AT  **SALA**

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TICKETS AT PEECNATURE.ORG/EVENTS



a morning object. Neither are expected to be naked-eye visible, but should be accessible through telescopes. Meteor showers Quadrantids and Upsides will occur starting in late December, persisting into January.

Dark Nights, hosted by the Pajarito Astronomers, will be held again starting in March 2026 and run through November, but the dates of these have not yet been set. They are usually held on the Saturday evenings closest to the New Moon at Overlook Park in White Rock. There are always telescopes available for public viewing. And if you bring your own telescope and need help with it, you'll meet some friendly experts! 🗺️

Scan the QR code to learn more:



Looking Forward, Together

By Sue Watts, PEEC Volunteer

Early on, the Vision Interpretive Committee was grappling with naming three values that defined the uniqueness of the Pajarito Environmental Education Center (PEEC). We had started the values identification process by asking folks to think of someone who epitomized their idea of PEEC and then to list three values connected with that person. They were to send in their list without the names attached.

Armed with a batch of brownies, the committee pondered the list of 160 values that had been submitted. Using a process we dubbed clumping, we began to sort the posted values by the commonalities they shared. The values of nature and education came easily enough...but the corporate world of strategic planning encouraged us to identify three values. We were down to the last brownies before we agreed that community was our third value. Nature, education, and community defined our uniqueness.

It has been richly gratifying to see all three values continue to characterize PEEC's life.

PEEC's mission statement says it all: *to enrich people's lives by strengthening their connections*

to our canyons, mesas, mountains, and skies.

PEEC's commitment to education has been paramount from the beginning. We have such a strong education department that we're running out of office space for the increasing number of educators needed as the popularity of the programs with schools both here and in the valley grows.

Our programs aid that strong connection on so many levels for adults and children. From the Passport to the Pajarito Plateau to our exhibits, which serve as an introduction to our surroundings, to our frequent astronomy and nature talks in the planetarium to the hikes and outings we lead.

The community has deepened and enriched us. We are now the recognized hub for "all things nature" in the area. We've collaborated with such organizations as the Department of Public Utilities, the LA Mountaineers, Bandelier National

Monument, Valles Caldera National Preserve, and even NASA. Recently, we received awards from the Los Alamos Chamber of Commerce's 2025-Non-Profit of the Year and the New Mexico Hospitality Association's 2025-Outstanding Attraction. It is gratifying to see how entwined we are with Los Alamos and White Rock, as well as communities and pueblos in the surrounding area—and now, even the entire state of New Mexico!



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Education Center**

*Looking Forward
Together*

Looking forward, we plan to continue our commitment to our three values. We are grateful for your support and participation in creating a stewardship ethos for our area. It is satisfying to be able to partner

with our community. Your dedication to living sustainably and responsibly urges us to continue our part of the partnership.

Your involvement and support enables us to meet our vision defined by that brownie-eating committee of the past: to see Los Alamos as a place where nature is a part of peoples' lives...a place where people enjoy, value, and care for nature on a regular basis. 🗺️

Love Nature and Community? Join our Volunteer Team!

Opportunities: Docents, Bird Feeders, Animal Caretakers, Gardeners & More.

Make a Difference! Gain experience while connecting with nature and your community.



Questions?

Email our Visitor Services Manager, Nic, at nicole@peechnature.org or scan the QR code.



*Long-time Volunteers Christine, Terry, Joyce, and Sue (Left to Right)
Photo Credit: Jillian Rubio*

Our Mission: Enriching people's lives by strengthening their connections to our canyons, mesas, mountains, and skies.

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Kristen O'Hara, Director of Programs
Jillian Rubio, Executive Director
Beth Sanchez, Education Programs Coordinator
Sarah VanHoosier, Environmental Educator
Elizabeth Watts, Educator & Planetarium Manager

"Had a wonderful talk with the volunteer there telling me about her story and the towns. Love the maps in the center. My kids had fun seeing the different animals."

— Los Alamos Nature Center Visitor

Nature Center hours:

Monday: 10 – 4
Tuesday: Closed
Wednesday: 10 – 4
Thursday: 10 – 4
Friday: 10 – 4
Saturday: 10 – 4
Sunday: Closed

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*Backcountry Film Festival Attendees Awaiting
Raffle Winner Announcements in January 2025
Photo Credit: Casey Lundberg*

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UPCOMING EVENTS

Las Conchas Snowshoe & Crosscountry Ski **JAN 10**

Backcountry Film Festival **JAN 22**

Common Ground Movie **FEB 5**

Discovering Wildlife in Winter **FEB 7**

Stellar Attractions **FEB 13**

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