

# THE ACORN

American River Natural History Association Members' Magazine – Winter 2020



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# President's Message, Winter 2020



As I write this in September, I am trying to imagine what life will be like in just a few months from now – in December. Will we have the anticipated vaccine that will allow our lives to return to normal, or will we still be waiting for relief from the pandemic and its economic fallout?

To assure the Effie Yeaw Nature Center's continued strength in the face of uncertainty, the Board of Directors of the American River Natural History Association and staff of the Nature Center have initiated efforts to prepare for and see us through this uncertain time.

We have re-doubled our efforts to maintain robust on-line and (limited) in person programming while thoughtfully reducing costs. The staff of the Nature Center are fully engaged in crafting creative fund raising initiatives and developing innovative programming opportunities. Our energy level is high and our outlook is positive!

We want our membership and our community to know we are open, we are offering groundbreaking on-line learning programs, we are providing in-person nature education, we are maintaining our wonderful Animal Ambassadors, and we are welcoming walkers and nature lovers of all stripes to the Nature Center.

We remain dedicated to our essential mission to provide educational and interpretive programs focused on the natural environment and the American River Parkway. Our mission includes two goals, the first to provide opportunities for our visitors to appreciate, understand and enjoy our natural environment. The second goal is to increase awareness and understanding of human interdependence within a finite ecosystem - and the need to conserve its resources.

I can't think of a better time than now to illustrate the importance and relevance of these goals. More than ever, the Nature Center functions as a vital natural resource where people can enjoy the sights and sounds of a walk through nature, take in the views of wildlife and river, and enjoy the open air. Our interdependence with nature is so very clear as we rely on and benefit from its positive impact on our lives.

As ever, we need your continued support! Please give generously as you plan your end of the year charitable contributions. Your financial support will see us through to the end of the current challenges and allow the Nature Center to thrive while providing innovative environmental education into the future. We are delighted and humbled that you have joined us on this journey. Thank you for your support.

Laurie Weir



*The Acorn* is published quarterly by the American River Natural History Association (ARNHA), a 501(c)(3) non-profit organization that supports the Effie Yeaw Nature Center and Nature Study Area.

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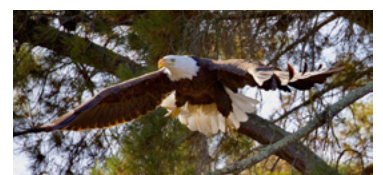
## **American River Natural History Association**

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Cover: Bald eagle in flight.  
Photo by Kathy Kayner.

# Observing Bald Eagles

By Kathy Kayner

Editor's note: *Kathy Kayner has been observing a pair of nesting bald eagles above Lake Natoma since 2017 as a volunteer for California State Parks and the Bureau of Reclamation. She educates visitors and makes sure that the nest and eagles are not disturbed. It is believed that there are several pairs of bald eagles nesting in the Sacramento area, and eagles are now often seen along the American River near Effie Yeaw. In this article, Kathy shares her photographs and observations about our national bird.*

Bald eagles return to the Sacramento area in late September or early October and begin repairing their nests in earnest in November. They start work gathering branches and grasses at sunrise and usually stop around 8:30 or 9 a.m. Sometimes they will also work on the nest in the afternoon. They then fly westward, no doubt to hunt for salmon downstream. The Lake Natoma pair have been seen flying with their previous offspring and perching together during this time. Family ties are strong. A breeding pair of eagles may remain together until death, but if one dies, the surviving bird may soon find a new mate.



Bringing a branch to the nest.

Eagles mate from late December until early February, and it is not uncommon to see their courtship displays. According to the U.S. Fish and Wildlife Service (USFWS), bald eagle nesting season in this region begins the middle of January and that is when monitoring and volunteer duties start at the Lake Natoma nest site. We strive to



Mama and Papa resting from nest building near Lake Natoma.

educate visitors, taking them to a designated viewing area (approximately 350 feet west of the nest) to safely observe the eagles. Standing near an active nest during nesting season is considered a disturbance to eagles by the USFWS. Bald eagles are no longer a federally endangered species, but they are protected under the Federal Bald and Golden Eagle and Migratory Bird Treaty Acts as well as being a California Endangered and a Fully Protected species.

A female bald eagle lays her eggs by the second or third week of February and diligently incubates them for about 35 to 38 days. The male eagle may relieve her, but she is the primary brooder. The chicks hatch in the middle of March and are fed on demand for about three weeks. The male eagle is an ever-diligent hunter and protector and will bring fish after fish and an occasional mammal to the nest. This creates quite an odor, attracting soaring turkey vultures that circle the nest, not hunting the eaglets but trying to scavenge the carcasses the male eagle brings in. When there are too many turkey vultures circling the tree, the female eagle often screams. Sometimes the male will fly in to disperse the vultures. I am sure it causes the female eagle great angst when he does not come right away.

When they first hatch, young eaglets are not able to thermoregulate to stay warm, so the female stays in the nest with them for about two weeks. Once they are covered in downy feathers, she no longer has to keep them warm.



The eaglets grow quickly. After about a month or so, both adult eagles actively hunt to keep their growing eaglets satisfied. At about two months, food is not brought in as often as the eaglets would like. If they continued to be fed on demand, they would not be motivated to fly in June! Thus begins what I call "Tough Love". The eaglets will squeal and squeal for food, but the parents ignore them. They will be fed when the parents feel it is time and not when the eaglets want. I tell visitors that the only source of liquid they get is from the fresh kills their parents bring into the nest. Eagles have no way to bring in water, so you can imagine how thirsty and hungry these eaglets must get.

In April or May eaglets begin "wingersizing" or flapping their wings in earnest. By the end of May and early June, eaglets will be jumping and flapping up to a nearby branch and going back down to the nest. This helps build up the strength they will need for that critical first flight. Interestingly, at this time, the eaglets look a bit bigger than their parents. The reason for this is that the parents begin to molt some of their feathers. The young eagles will not molt until the following year, so they are always adding new feathers, which along with the old ones make them appear larger.

The first flight of an eaglet is an exciting and nerve wracking moment. The nest has been the only home they have known for three months. When they first test their wings to fly, it can be scary. I have seen them take their first flights, and I can tell you landing is very tricky. Once they have taken their first flight, they are no longer eaglets. These little eagles are now called fledglings. After about



Juvenile eagle in flight.

a week, they begin to get the hang of taking off and landing. The parents bring food into the nest for the juveniles for a couple of weeks. This forces them to fly back to the nest and practice their all-important landing skills.

In July, the parents will bring food to different tree branches to get the young eaglets, now called juveniles, familiar with their surroundings. Usually, by the end of July, juveniles leave the area to live independently. The parents also leave, heading north to cooler climates. They are not tagged or otherwise tracked, so we do not know exactly where they go. Sometimes, we see juveniles flying with turkey vultures who are better at locating carcasses. The juveniles muscle their way in and eat their fill while the vultures wait. This is one way young eagles can survive while they practice their fishing and hunting skills. We must remember that eagles are scavengers as well as skilled hunters. They will happily eat carrion and freshly caught fish, birds, reptiles, and mammals.

Bald eagles become fully mature and both sexes develop full white heads and tails in their fifth year. At that point they search for a mate and start their breeding cycle in a territory far away from their natal nest. Breeding bald eagles have an approximate territory radius of 5 miles. While adult eagles are raising their eaglets, no previous year offspring or other eagles are allowed near the nest and will be screamed at and eventually chased away by the male.

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*This article was condensed from a Friends of the River Blog (05/24/20) by Kathy Kayner. Together with Joleen Maiden, Kathy has also written a brochure to help address common questions about eagles: "New Friends of Lakes Folsom and Natoma Bald Eagle Brochure" available online and in the Discovery Store. All photos were taken by Kathy Kayner.*



The juvenile eagle (top) appears larger than her father.



# Exploring the Mysteries of Microhabitats with Your Cellphone

By Mary K. Hanson

Besides the cooler temperatures and promise of rain, one of the things that I really enjoy about the fall and winter in the Effie Yeaw Nature Study Area is being able to find tiny habitats unlike anything you'll see during the warmer, dryer months. Imagine miniature forests of moss, fungi, and lichen filled with a wide variety of alien-looking inhabitants.



This photo shows you the kind of clip-on macro attachment I use on my cellphone (being inspected by a California pipevine swallowtail butterfly). The attachment acts like a loupe, further magnifying the subject I'm photographing another 20 times more than the cellphone's camera can do by itself. Attachments like this can be purchased online for between \$9 and \$90. [And, yes, the photo I got of the butterfly's face and proboscis at this moment was awesome.]

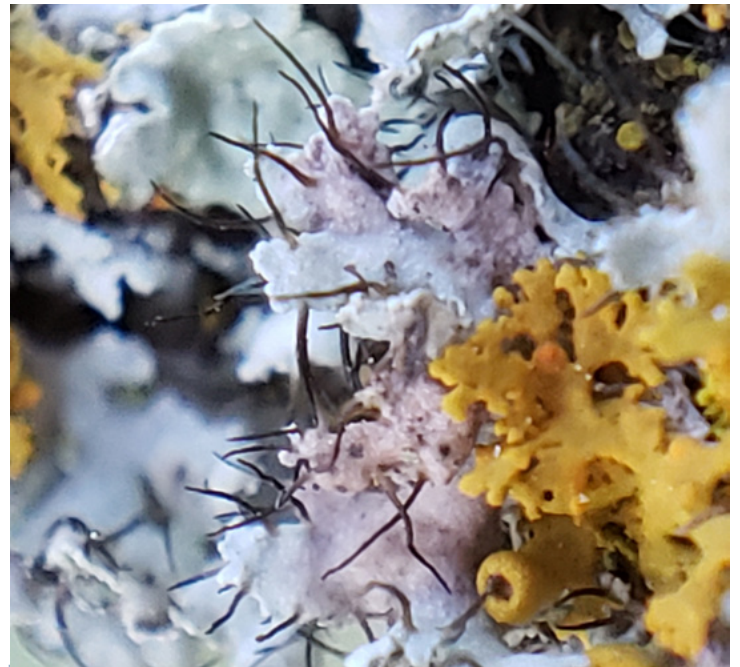
Historically, when naturalists went into the field to look for these microhabitats, they took with them their field notebooks, sketching supplies, and hand lenses or loupes (magnifying devices). It was a lot to carry and a lot to juggle with just two hands. Today, we have it a little bit easier in that modern cellphones can do a lot of our observational recording for us.

Cellphone apps can take measurements, log precise locations and temperatures, trace the path of your excursion, and document sightings with photographs, video and audio recordings. Clip-on "macro-attachments" can further enhance the photo-taking prowess of cellphones by acting as loupes for the cellphone camera's eye, magnifying details that can't be seen with the naked eye.

Most of us these days carry a cellphone with us everywhere, and what's great about the naturalist-friendly apps is that many of them are free. Digital loupes (macro-attachments) are also readily available and can range

in price from about \$9 to \$90. This means that even folks who aren't certified as naturalists can more easily explore the mysteries of micro-habitats in the fall and winter, record their findings and share them with others (including the scientific community) through apps like iNaturalist and Seek.

Last winter, I was out in the Nature Study Area with a friend of mine and picked up a fallen stick from the ground. It had rained a day or so prior to our walk, so the ground was moist and the stick was covered in a variety of rain-plumped lichen and fungi. The variety of growths on that one stick quickly caught our attention. We spotted brown jelly fungus (*Tremella foliacea*), crystal brain fungus (*Myxarium nucleatum*), witch's butter fungus (*Tremella mesenterica*), green shield lichen (*Flavoparmelia caperata*), shrubby sunburst lichen (*Polycauliona candelaria*), and a new one for me on that day, hooded rosette lichen (*Physcia adscendens*). I thought at first it was plain hoary lichen until the macro-lens showed me the long dark eyelash-like cilia on the thallus (or body) of the lichen, which are typical of this species.



The eyelash-like cilia on the edges of the thallus of hooded rosette lichen (*Physcia adscendens*) are generally invisible to the naked eye. But with a macro-attachment acting as a loupe on the digital eye of a cellphone, they become visible. It's details like this that will help you identify different species of lichen.



Finding a new-to-you species is always exciting, but that wasn't all we saw that day on that one stick. Turning the stick over onto the side that had rested closest to the ground revealed tiny worms and millipedes, and something neither I nor my friend had ever seen before, a shiny reddish-brown pseudoscorpion (most likely *Chelifer cancrivores*).



Common but seldom seen, pseudoscorpions like this one (most likely *Chelifer cancrivores*, sometimes called the house pseudoscorpion) come into view in the magnified eye of my cellphone camera. Although they look almost as ferocious as true scorpions, these little guys are no threat to humans. The translucent blobs you see to the left in the photo are specimens of crystal brain fungus (*Myxarium nucleatum*).

There are about 200 species of pseudoscorpions in North America, and they live in a variety of habitats including leaf litter, under rocks and tree bark, in buildings, and of course, on sticks on the forest floor.

Like true scorpions, pseudoscorpions are arachnids, but they are very small, usually less than eight millimeters in length (0.31 inches), and they like to hide so they're often very difficult to see with the naked eye. We only noticed the one on our stick because it moved and raised its pincers at us. Putting the macro-attachment on my cellphone allowed us to see more detail and more accurately identify it.

Because pseudoscorpions are small and wingless, it's difficult for them to travel long distances. But they're able to move themselves much further by using their pincers to cling to the fur of animals such as passing deer and squirrels, or even hitch-hiking on the legs of grasshoppers and crickets.

Pseudoscorpions look exactly as their name suggests: a pseudo (imitation, wannabe) scorpion. They have pincers like scorpions but no stinger at the end of their bodies, which are more or less pear-shaped. That doesn't mean these mini-creatures are without their own kind of built-

in weaponry. The mobile finger of their claw-shaped pedipalps (pincers) holds their venom gland, which they use to immobilize prey at mealtime. Once the prey is properly paralyzed, the pseudoscorpion will inject it with an enzyme in its saliva that predigests and liquifies the prey for easier consumption. Don't worry; they're not a threat to humans. Their diet includes many types of small invertebrates that thrive in the leaf-litter and soil environment such as mites, lice, thrips, beetle larvae, and springtails.

Ahhhh, springtails. This is another tiny inhabitant of forest floor microhabitats, and we were able to find a few on our stick tucked in the folds of the jelly fungi and walking along the edges of the lichen.

Springtails, order *Collembola*, are no longer considered true insects but are now grouped in the larger "hexapods" subphylum as they have no external mouthparts. Like the pseudoscorpions, springtails are miniscule, less than six millimeters in length (0.24 inches), so they're hard to see unless they group together in masses, which they sometimes do. One of the naturalists at Effie Yeaw spotted a mass of purple ones in a puddle along the Riverview Trail one spring.



There are two different body forms of springtails: one tubular, like a cigar, and the other globular, with the head and abdomen shaped like little globes. This is a globular springtail (*Ptenothrix marmorata*) walking along the edges of green shield lichen (*Flavoparmelia caperata*).

Purple and pink are not uncommon colors for springtails, but they're also found in far more drab colorations like tan and brown. They also come in two body types: one tubular, like a cigar, and the other globular, with heads and abdomens shaped like little globes. What we saw on the stick were globular springtails (*Ptenothrix marmorata*). We inferred that the pseudoscorpion might have been hunting for them.



Springtails are called “springtails” because of an appendage on the rear of the abdomen of most species called a “furcula”. The furcula is tucked in tightly under the abdomen and held there under tension. When startled or attacked, the springtail will release the tension on the furcula, which then slaps against the ground (or whatever substrate the springtail is walking on) and hurls the springtail into the air, all in the space of about 15 milliseconds! Now you see them, now you don’t.

Most species of springtail are omnivorous and help in the process of decomposition by eating spores, plant material, minerals, bacteria, some fragmented animal remains, and fungal hyphae. They’re found pretty much everywhere on Earth where soil-related habitats occur, but they need moisture to survive. Studies have suggested that they may be the most abundant animals on the planet. In one square meter of soil there can be over 100,000 of them, which is why, in part, pseudoscorpions and other springtail predators also thrive in many of the same habitats.

We observed lichen, fungi, a pseudoscorpion, and springtails all on one stick lying on the forest floor. Now think of what you might discover the next time you go out into the nature study area and pick up a downed twig! Remember to take your cellphone with you, take pictures of what you find and then share them with the scientific community at large through apps like iNaturalist and Seek. Exploration is exciting, and knowledge of the environment is a powerful thing.

Mary K. Hanson is an author, nature photographer and Certified California Naturalist. She got her naturalist certificate from the Effie Yeaw Nature Preserve and serves as a volunteer trail walker and member of the media committee. All of the photos shown with this article were taken by Mary.

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## Western Fence Lizards, Ticks and Lyme Disease

By Mary Louise Flint

The blue-belly or western fence lizard, *Sceloporus occidentalis*, is one of the most popular Effie Yeaw Nature Study Area inhabitants. Children on my school hikes are always looking out for them. They scamper up, down, and sideways on our fallen trees and among rocks and nooks and crannies in search of insects. Their fast movements have earned them another name: swifts. But these lizards can also be very still and love to bask in warm sunshine.



Western fence lizard on log.  
Photo by James Hargrove.



Western fence lizard doing “push-ups” and showing his blue belly. Photo by James Hargrove.

Even our youngest visitors are well-versed in the lizard’s habit of doing “push-ups” to claim territory or court members of the opposite sex. A blue-belly might do 18 or more push-ups in a row to impress its audience and go on to repeat the action several more times in an hour.

This small reptile is a keystone species in our Nature Study Area ecosystem and an essential component of many food webs. Lizards are important prey for snakes, especially baby rattlesnakes. Many birds, including hawks, egrets, crows, and turkeys as well as mammals, ranging from squirrels, skunks, raccoons, to coyotes, consume the blue-belly. Black widow spiders may also feed on the littlest specimens. The lizards themselves catch and eat many arthropods including spiders, dragonflies, ants, wasps, bees, and flies.

Less well known is the role the western fence lizard plays in the life cycle of ticks and the spread of Lyme disease to people. Lyme disease is caused by a spirochete bacterium, *Borrelia burgdorferi*, spread to humans in California through the bite of the western blacklegged tick, *Ixodes pacificus*. The disease can cause fever, rashes, fatigue, and other symptoms and be very serious if not treated within a few weeks of exposure. The disease is quite



common in the northeastern U.S., but less so in California, possibly partly because of a unique characteristic of our native lizard.

While adult western blacklegged ticks commonly feed on deer, immature (larval or nymphal) ticks feed on the blood of small mammals, birds, and lizards. The Lyme disease pathogen resides in the blood of certain small mammals and birds and is passed on to ticks when they feed on the infected animal and then on to humans who are bitten by that tick. Deer do not carry the disease.



© Gary Nafis

Three engorged ticks on a blue-belly. Several smaller brown mites can be seen in its ear. Photo by Gary Nafis, [www.CaliforniaHerps.com](http://www.CaliforniaHerps.com)

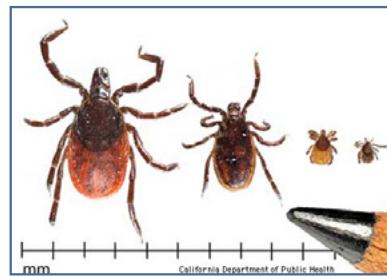
The way that the western fence lizard breaks this cycle is quite amazing. It turns out that the lizard's blood contains an antibacterial protein that kills the Lyme disease pathogen. As a result, any infected tick that subsequently feeds on a lizard will be cleansed of the pathogen and will not be able to transmit it to humans, except in the unlikely event that they are later re-infected. (Unlikely because ticks only have 3 meals in their lifetime.)

The antibacterial protein in blue-belly blood was first discovered by Professor Bob Lane at UC Berkeley in the 1990s. He suggested that the blood-cleansing service performed by our native lizards might be one reason that incidence of Lyme disease is so much lower in California and the west coast than in the northeastern part of the U.S. where the disease is more common and the western fence lizard is not present. Western fence lizards are a preferred host of western blacklegged ticks—with up to 90% of California ticks feeding on this host for their larval or nymphal meals.

Subsequent work by the UC Berkeley team showed that the relationship between the western fence lizard, the

western blacklegged tick, and incidence of Lyme disease is more complicated. When researchers removed lizards from experimental plots in Marin County, they found that the tick population was drastically reduced. Lizards are clearly the preferred host, and the ticks don't survive as well in their absence. Although wood rats and other mammals harbored slightly more ticks in the lizard-free plots, overall tick density was reduced by 95%, reducing not only the potential for tick bites but also the risk of Lyme disease.

Professor Lane still believes that fence lizards are keeping infection rates down. "The earlier finding that adult ticks have lower infection rates because they feed predominantly on the Western fence lizard at the nymphal stage still holds."\*



Life stages of the western blacklegged tick showing from left: adult female, adult male, nymph and larval stages. Ticks have a single blood meal between each stage. Photo by California Department of Public Health.

We are lucky that Lyme disease incidence is so low in California. Only 1,740 confirmed cases were reported to the CDC in the eight years between 2000 and 2018. In contrast, New York State reported more than 48,000 cases. Only 80 cases were reported in Sacramento County during that period. Most California cases occur in northern coastal counties.

I like to think we can partly thank our wonderful blue-bellies for that. But there are other ecological differences in the eastern U.S. that contribute to the prevalence of Lyme disease there in addition to the absence of the western fence lizard. The Lyme disease system in the eastern U.S. involves a different tick species, different host reservoir species, and different climate. More research will be required to completely understand the role of our resident western fence lizards in reducing Lyme disease risk in California.

\* Yang, Sara. 2011. Tick population plummets in absence of lizard hosts. Berkeley Research Highlights Archive. [vcresearch.berkeley.edu/news/tick-population-plummets-absence-lizard-hosts](http://vcresearch.berkeley.edu/news/tick-population-plummets-absence-lizard-hosts)

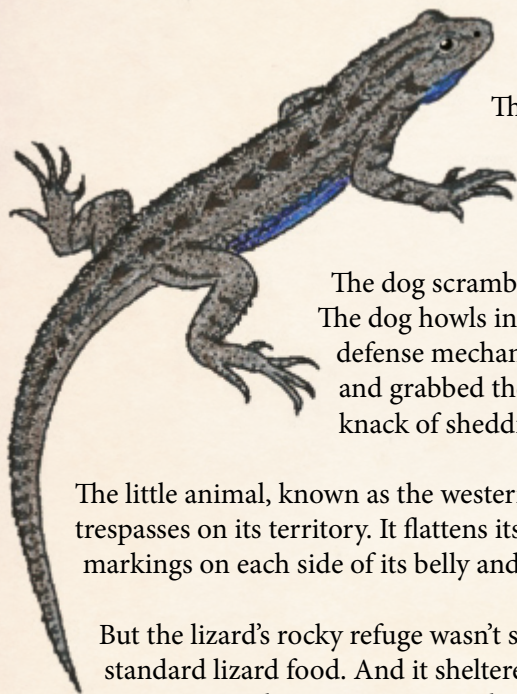
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*Mary Louise Flint, Ph.D. is a docent at EYNC and Extension Entomologist Emerita at the Department of Entomology, UC Davis.*





## Blue-belly

by Peter Hayes



The noontime sun has slowed the aging hound's pace to a plodding gait. But his somnolence vanishes when an intruder creeps into view from beneath the nearby wild oats. It is a lizard, six inches long, dark brown back with black spots.

The dog scrambles after it, but it is no contest as the lizard darts into a pile of rocks. The dog howls in frustration, but the evolution of the lizard has long since developed the defense mechanisms enabling it to live another day. If the pursuing dog had been closer and grabbed the lizard's tail, that might have been all it got. These lizards have the knack of shedding their tails in such traumatic circumstances.

The little animal, known as the western fence lizard, or blue-belly, also has a way of bluffing another lizard that trespasses on its territory. It flattens its sides and raises the skin of its throat, thus displaying iridescent blue markings on each side of its belly and accounting for its alternate name.

But the lizard's rocky refuge wasn't such a bad place to visit. It provided ants, beetles, spiders, and other standard lizard food. And it sheltered him from the sun, which could get oppressive for this cold-blooded creature. As the temperature under the rocks goes down, so does his body temperature.

Lizards have dry, scaly skin, which suggests that they were maligned when Thomas Mann wrote: "Hold fast the time! Guard it, watch over it, every hour, every minute! Unregarded it slips away, like a lizard. Smooth, slippery, faithless, a pixy wife."

Perhaps Mann was thinking of the salamander, a moist skinned amphibian related to frogs. Nor does the salamander enjoy the sun as does the lizard, which suggests why it isn't too much at home hereabouts.



*From "An American River Journal," published by the American River Natural History Association (ARNHA). It features illustrations by ARNHA co-founder Jo Glasson Smith and nature essays by Peter J. Hayes, retired newspaper editor and ARNHA Associate Board member. The book is available for \$9.75 at the Effie Yeaw Nature Center, [SacNatureCenter.net](http://SacNatureCenter.net) and selected bookstores. Visit [sacnaturecenter.net/media/](http://sacnaturecenter.net/media/) to hear readings of the essays by the author.*



# Behind the Scenes with our Reptile and Amphibian Animal Ambassadors

By Joey Johnson

There are many aspects of the Effie Yeaw Nature Center that make it an amazing experience for people of all ages, but the one that never fails to bring smiles and looks of wide-eyed wonder is an up-close connection with one of our Animal Ambassadors. While the raptors are often the stars of the show, our reptile and amphibian Animal Ambassadors are also key contributors to educational programs and very popular with visitors.

The Nature Center is currently home to 10 snakes, including one rattlesnake, and six smaller reptiles or amphibians, collectively referred to as the “littles”. These include two toads, a northern pacific tree frog (or chorus frog), a pond turtle, a Skilton or western skink, and a Gilbert’s skink.



Natoma the rattlesnake in the lobby enclosure.

The knowledgeable and dedicated animal care staff Renee Covey and Jackie DeWeese, with support from Heather Gabel and a cadre of volunteers, ensure that all the animals live in a clean space that mimics their natural habitat as closely as possible. Their diet is carefully monitored, and meticulous records are kept regarding whether or not the animal has eaten and what they have eaten. Much of the food for the reptiles and amphibians is purchased from commercial suppliers and can be quite pricey, around \$30 - \$40 per month. For some of the “littles”, insects such as cockroaches are reared by the Animal Care staff. It is impossible to mimic the natural diet so vitamin supplements are added to the feeding regimen. For animals on invertebrate diets, this is done through a process called “gut loading” where insects are fed the vitamins prior to being fed to the Animal Ambassadors.



Animal Care’s new space includes more room for reptile enclosures.

The habitat needs of each animal are different. They all need UV lighting and moisture, but each at a different level. A few years ago, the Nature Center held a fundraiser to purchase special enclosures that can accommodate these needs and provide proper ventilation to maintain a healthy atmosphere.

The “highest maintenance” animal is Clem, the western pond turtle. Clem needs the most space for a healthy habitat and he needs to go for a walk every day. Once a year he goes into a kind of hibernation called brumation when he must be housed in a quiet, dark location away from the public. He is also a very social guy. While I was photographing him, he followed me attentively as I moved around his enclosure. To get to better know Clem, take a look at this short video of him on [YouTube](#).



Clem, the pond turtle, enjoys basking under the lamp in his enclosure.

The Nature Center works with the Roseville Bird and Pet Clinic for medical support for the animals. The veterinarians at this clinic have training and experience with avian and exotic animal medicine.

For many years the snakes and Animal Care staff occupied a small, cramped space off the Nature Center lobby that had as its main feature a sink and water supply. This year a whole new space has been created to improve life for these animals and the people who look after them. Everything was moved to what used to be an office and storage area in the back of the building. Two new stainless steel sinks were obtained and installed pro bono by Arrow Plumbing. New worktables and more generous spaces for animal enclosures were added. As a result, Animal Care now has a nice large space for supplies, enclosures and prep and room for more than one person to work at a time. New enclosures are also being constructed in the lobby to house some of the “littles” with more space for each animal. The raptors and other birds remain in the aviary behind the Nature Center building.

While Renee and Jackie oversee all the Animal Care operations, they couldn't do it without a group of dedicated and skilled volunteers. Currently, there are 22 volunteers in the Animal Care department.



Animal Care Specialist Renee Covey preps food in the new Animal Care facility.



Kaiya, a western toad, is one of our amphibian Animal Ambassadors.



Clover, a northern Pacific tree frog, likes to hide among the leaves.

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*Joey Johnson is Past President of ARNHA, a photographer and a nature lover. All photos were taken by Joey.*





# Effie Yeaw Nature Center



Follow us on Facebook and Instagram to keep up-to-date on the latest happenings at the Nature Center and in the Nature Study Area, discover fun facts about plants and animals, and join us on Facebook LIVE! for 'Ask a Naturalist' and more!

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Did you know the Nature Center has a blog featuring fun articles about creatures, critters, and all kinds of life that can be found our region! The blog is also home to our new online environmental education program, 'Ask a Naturalist': Learn, create, and activate! Check it out: [sacnaturecenter.net/visit-us/nature-blog/](https://sacnaturecenter.net/visit-us/nature-blog/)



Discover our region with activity and nature guides, children's books, and more created and published by the American River Natural History Association—the non-profit organization that runs the Effie Yeaw Nature Center. Shop Books: [sacnaturecenter.net/arnha/shop-books/](https://sacnaturecenter.net/arnha/shop-books/)



A quarterly digital magazine for members featuring articles about our regional natural world, events at the Nature Center, volunteer features and opportunities, and more! Take a look at The Acorn archive:

[sacnaturecenter.net/arnha/acorn-newsletter/](https://sacnaturecenter.net/arnha/acorn-newsletter/)



[SacNatureCenter.net](https://SacNatureCenter.net)

## Phyllis McGrath: Featured Volunteer

Our featured volunteer for this issue is Phyllis McGrath. Phyllis joined the Effie Yeaw Nature Center volunteer program in 2008 and jumped in with both feet as a docent and animal care assistant. She has also helped with Nature Camps and is a regular support at special events. She has put in over 1200 hours of service and continues to volunteer as the Animal Care lead on Tuesdays. Phyllis has really stepped up her support during Covid-19 while her partner lead has been staying safe at home during the pandemic. Phyllis also volunteers at Sacramento Zoo and Folsom Zoo sanctuary. She has trained a number of animal care assistants of all ages, who have expressed gratitude for the great experience they've had working with her. Phyllis helps us bridge an important staffing gap in our Animal Care program, and we cannot thank her enough for all her service and her ever-present goodwill.



Phyllis McGrath with Wek-Wek, the peregrine falcon.



# Discovery Shop

If you haven't been inside the Nature Center in a while, please come and see all of the changes made to our lobby and Discovery Shop! During our closure, we have been busy at work updating the counters and shelves to display our merchandise and create a more pleasant shopping experience. Our little critters have also been given a new enclosure which gives them more room and an eye-level view for our guests to enjoy them. Behind the scenes, our animal care area has also been moved and renovated to create a better space for our Animal Ambassadors to live and their care staff to work.

We are happy to announce that we have opened up an online shopping option for purchasing Effie Yeaw logo items, such as our hats, water bottles, and our EYNC published books. Support your favorite spot by wearing a EYNC logo mask, also now available in our store or online. Curbside or store pickup are available, as well as standard shipping options. [effie-yeaw-nature-center.myshopify.com/collections/all](https://www.effie-yeaw-nature-center.myshopify.com/collections/all)

For the holidays, consider a Gift That Keeps Giving by adopting an animal, or giving a gift membership to your friends or family this year. Our annual Holiday Sale will also be a new experience, under the oaks in the outdoor village on Saturday, December 5 from 11 to 4. Save the date now and look forward to more announcements. Stop in to say hello and check out our updated store and merchandise. We hope to see you soon!



Store manager Kristen Angelini, wearing logo mask, in updated store area.

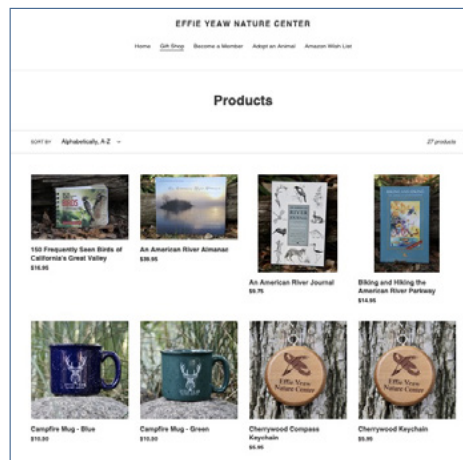
**Come to our outdoor Holiday Sale, Saturday, December 5!**



Social distancing protocols are required at the store and lobby areas. Buy a EYNC logo mask at the store!



The store stocks toys, water bottles, hats, books, masks, greeting cards, and more.



Shop [online](#) for books and logo items at the new Discovery Store website. Over 25 items are available.



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