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THE PONDEROSA

the PINE RIDGE ASSOCIATION

NEWS LETTER



FROM UNDER MY BRIM

LIFE IN AN OAK TREE

From a distance you could see a swing beneath the spreading branches of the oak tree. It was just a rope tied to an old tire. I wasn't until you got closer that you noticed the tree house built out of scraps from the houses they were building across the road from the vacant lot. It was here that we spent one night, although we did not sleep much. The hooting of the Great Horned Owl and the crying of the Mourning Doves were sounds that by candle light seemed more like the sounds that terrible monsters might make.

Even people can live in oak trees, but they are much less suited to this than the hundreds, maybe thousands of animals and plants that live in or depend on oak trees. Oak trees are like whole worlds in themselves. The cycle of birth, life, death and birth again, takes place completely on oaks for some organisms. The tree provides shelter from the elements and predators, nourishment in many forms, oxygen, everything a plant or animal might need.

Lichens and mosses attach themselves to the trunk and branches. The shade of the tree and even moisture transpired by it, provide the perfect habitat. In and around these plants, in the cracks of the bark, on the leaves, even inside of the tree are found a great variety of insects. These are food for the woodpeckers, nuthatches, and numerous other birds that search for food, perch, and nest in oaks. Some of these birds may be food for what I call the "bird hawks", the Sharp-shinned, and Coopers. These hawks, as well as others use oaks to perch in and occasionally for nesting.

Mammals are not common in oaks, but a hollow trunk with an opening near the ground might provide a home for a skunk, fox, bobcat, ground squirrel, or wood rat; while a hollow much higher might provide shelter for a racoon. Deer will eat the oak foliage and of course acorns. Acorns were the most important source of food to the Indians of this area. They also rank as the most valuable food for animals. One important reason is that they are available even in winter when other foods are scarce. The Acorn Woodpecker makes sure that he always has a supply by drilling holes in trees and

stuffing them with acorns. A single tree can contain over a thousand or even as high as 10,000 acorn stuffed holes. The woodpecker can then return to eat the meat of the acorn and any insect larva found inside.

Mistletoe draws nourishment directly from the sap of the tree and although it occasionally kills branches, it seldom harms the whole tree. The seldom seen sapsucker, mostly an insect eater, does use the same food as mistletoe, but obtains his by drilling holes into the sap producing layers of the tree. As mentioned before, insects are very common on oaks. One interesting group is the cynipid wasps or gall wasps. Eggs are laid in stems, buds, or leaves. Along with the eggs, a substance is left which causes that part of the tree to grow a gall, which depending on the species of wasp, ranges from a tiny bump, to a large baseball sized "apple". The wasp larva will use the gall as food and shelter. Other insects will also use the gall, some are even predacious or parasitic on the wasp larva. The gall wasps have a bisexual generation with only females.

Many people consider mushrooms as all being a bunch of poisonous toadstools worthy only of being kicked into oblivion. Mushrooms, however, play an important role in the ecology of oaks

and some species have an unusual, mutually beneficial relationship with oaks, called "mycorrhizal". The mushrooms root like mycelium penetrate the rootlets of the oak. Here, the mushroom passes on to the oak, nitrogen, phosphorus, and other nutrients not readily available; the mushroom picks up certain organic compounds and is assured moisture in extreme conditions.

All things will pass and eventually the oak tree will die. Its body will be broken down by more insects, fungi, bacteria, wind, sun and water; broken down far enough so that it becomes nutrients to feed other plants - or maybe even provide a bed from which an acorn can sprout.

Barry

WHAT'S HAPPENING

- * July 13 TRAIL DAY - We will be upgrading the Monument trail and/or the Blue Ridge to Jackass Peak trail. Meet at the museum at noon. Bring a cassarol, salad or desert, beverage, utensils, plates - for a pot-luck at the headquarters at 6PM. (We will probably not be allowing fires so will not BBQ.) There will be a directors meeting after dinner.
- * Our new park brochures are here and have turned out quite nice. The cost is 50 cents.
- * We have been loaning out a "track tracer". Kids can trace tracks onto a piece of plexiglass and then onto a piece of tracing paper. In this way they can take home something of an animal without damage to the ecology.
- * New park record: 16" Alligator Lizard seen along Madrone Soda Springs Creek by Barry. After standing still long enough to be measured, the lizard jumped into the creek and swam to the bottom. Maintenance man John Neef's story is even more unusual. While walking down Madrone Soda Springs Canyon with his wife Karen, they stopped to look at a lizard. It ran up John's leg on the inside of his pants leg of course. Shaking and jumping didn't dislodge the varmit, so John rolled up his pants and Karen grabbed the lizard by the tail. She removed the lizard but the tail broke off and as she was checking to see if the lizard was OK, it ran up her leg. John came to the rescue. This time when the lizard was put down they moved away quickly - and as they looked back - you guessed it, the lizard was coming after them.
- * Latest information on the Coit Ranch acquisition is that the existing lease runs out

next June. There probably will be no access before that. The Thomas Ranch acquisition is still in the works. AB990 soon to go to Gov. Brown, will allocate \$9 million for the Gill-Mustang Ranch, one of the items on the defeated Prop. 1 on the June ballot.

Bark Beetles in Henry Coe Park
by
Steve Fend and Saelon Renkes

Recent visitors to Pine Ridge have noticed that a number of the well-known Ponderosa Pines are gradually turning brown and dying. There may be several factors working together to cause this situation, but one of the most important is a small, inconspicuous beetle belonging to the bark beetle family.

The bark beetles live in or beneath the bark of trees, typically mining in the nutritious inner bark. Many species of bark beetles will infest only dead or dying trees, while a few prefer living trees. In Coe Park there are at least two species that may weaken or kill Ponderosa Pines; these are the Westerned Pine Beetle and the California Five-spined Ips. The Five-spined Ips usually infests saplings or the tops of larger trees, and often prefers to breed in recently felled branches. Large trees are not usually killed, and outbreaks of this beetle are usually short in duration. The Western Pine Beetle generally attacks the thick, corky bark on the trunks of large trees. They prefer to attack the less vigorous individuals; trees with scanty foliage or trees that may have been weakened or injured. An infestation of Five-spined Ips in the top of a tree may stimulate attack by the Western Pine Beetle farther down. A heavy infestation causes the same response as girdling would. A long period of drought, such as we had recently, may weaken large number of trees, making them susceptible to beetles. Under moderate weather conditions, few trees are killed.

There are a number of natural controls for bark beetles. The tree itself may suffocate the beetles with pitch, which is why a vigorous tree is more resistant. Predators include woodpeckers and other insectivorous birds, ants, centipedes, beetles belonging to the families of Ostomidae and Cleridae, and mites all take bark beetles. Some bark beetles are controlled by parasitic wasps. During wet years, such as we have been experiencing this spring, the inner bark of a dying tree becomes very soggy and uninhabitable. Fungus growing in these conditions may kill beetle larvae. If a large number of trees are killed, the possibility of a forest fire increases; this would greatly reduce the beetle population.

It must be remembered that these "destructive" beetles are part of a natural system, and are important in maintaining the vigor of undamaged forests. By killing older or less vigorous trees, they create space for more healthy individuals; this is reminiscent of the familiar dynamic interaction between mountain lions and deer. By boring tunnels in bark or wood, they create access for the bacteria and fungi that return nutrients to the soil. Although these beetles are considered serious pests in managed forests, where their effects are measured in loss of dollars in board feet of lumber, here in Coe Park we can have the luxury of watching a natural process run its course.