

Wild Wednesday 16 Sept 2020 by Walt Anderson

The acorn doesn't roll uphill. . . . Seems like a trivial and logical statement, and yet, when you look at the rugged peaks in the Granite Dells, there they are—oaks high in the rocks, often in cracks on vertical faces. Some of these are older than Kevin Keith, so you know no rock climber put them there.

So how did the oaks defy gravity? Let's just say that they got an assist, typically by a bird like a jay or a mammal like a squirrel, either of which may have cached an acorn in an unlikely place where no wind could have moved a heavy object like an acorn.

In the grocery store, it may be cash and carry, but on these peaks, it was carry and cache.

An acorn is a big investment. Instead of tiny seeds produced by the zillions, an oak produces a smaller number of well-endowed progeny, acorns packed with lots of fats, proteins, and carbs—rewards to potential seed dispersers. Still, it's not a pure give-away—the acorn is protected from some predators with a hard shell and acidic tannins, especially when unripe. This is why Native Americans harvested ripe acorns and treated acorn meal to reduce the tannins before they consumed the results.

Acorns are produced in huge numbers in prime times, a phenomenon called masting. Some years there are more acorns than a jay, for example, can possibly consume, so the bird might as well store some for future feasts. Some caches are forgotten, and new oak trees germinate and begin the long period of growth to become new sources of nutritional bounty—an acornocopia of reward.

Sure, some acorn appetites result in complete destruction of the “baby.” Deer, Wood Ducks, and Wild Turkeys are seed-predators, whose teeth or gizzards crush the acorn and doom it to a premature death. Acorn Woodpeckers store acorns in vertical granaries for future consumption, and unless some acorns are removed by a marauding jay or squirrel and cached elsewhere, these are doomed too.

But somehow enough acorns are placed in unlikely spots that every peak and pinnacle has its oaks and/or pinyons, another species that relies on critters to move its seeds. The acorn may not fall far from the tree, but biotic Uber and Lyft can defy gravity and replace down with up. It's just one of those Quercuses of Nature.



When we gaze at the dramatic crags and cliffs in the Granite Dells, we may wonder at the improbability of oaks and pinyons clinging to rock where soil is mostly non-existent. Not only that, but acorns and pinyon nuts are heavy structures that obey the laws of physics, falling down and away from the parent tree. So what's going on here?



Some plants like orchids make millions of tiny “cheap” seeds that disperse on the wind, but oaks produce well-provisioned babies that depend on animal dispersal.



One of the best dispersers is the scrub-jay, an ambitious harvester that caches more than it can eat at the moment and returns later to retrieve meals from its dispersed larders. Though these birds have amazing memories, they often don't find every last hidden acorn, and some of these germinate and become the next generation of oaks.



The Acorn Woodpecker is a hoarder too, placing acorns in holes it drills in trees or power poles—its granaries. These stored provisions are not in good germination sites, so unless an avian or mammalian thief removes them without eating them, they are losers in the reproduction sweepstakes.



The Wood Duck is an acorn predator, demolishing the shell in its muscular gizzard. In some places, it is called the “acorn duck” because of its fondness for oak meal.



Deer and Wild Turkeys are also notable acorn predators.



Acorn cups are evidence that some critter had a feast.



I encourage you to take a closer look at nature's patterns and ask "why" and "how" these patterns exist. Carrying acorns to cracks high on these summits was not an insignificant effort, and for a bird or mammal to do that, it had to pay off energetically in the long run. That means that the acorns that did manage to germinate were likely a small subset of all those transported to cache sites. As we alter landscapes dramatically, often reducing populations of birds or mammals, we are also messing with long-term relationships. Without acorn-hoarding birds, for example, these rocks might be as naked as jay birds.