

Featured Plant

Common Name: Gambel Oak
Scientific Name: *Quercus gambelii*



Tom DeGomez

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Thomas Nuttall named Gambel oak (*Quercus gambelii*) after William Gambel (see *Featured Bird article*). A deciduous tree that commonly occurs in Arizona's ponderosa pine forests, Gambel oak grows at elevations between 5,000 to 8,000 feet. It is adapted to a variety of soils and can be found in poor, rocky soils or in more fertile soils. Trees normally vary in height from 10 to 30 feet tall, but can reach heights of 60 feet. The bark is gray and rough. The leaves are about 5 inches long and easily identified by several deep lobes. Bright green and glossy on top, and paler and sometimes hairy underneath, the leaves are smooth on the edges. The leaves do not have spines, as do several of the other oak species. During the fall, the leaves turn yellow to red and drop from the tree. Acorns are held by a cup that encloses about half of the acorn.

Gambel oak is commonly found growing in thickets. Although it reproduces from

acorns, the plant can spread rapidly from root sprouts that grow from underground structures called lignotubers. This feature makes Gambel oak resistant to wildfires, resprouting quickly after fire, and aids in watershed stabilization. It is also a fairly drought tolerant plant.

The foliage is an important source of food for a variety of wild animals, while the acorns are consumed by deer, elk, bear and turkey. The trees themselves also provide cover for wildlife. Gambel oak contains tannic acid. Livestock that forage on the plants can experience poisoning effects if it makes up more than 50% of the animals diet. American Indians soaked the acorns to remove the tannic acid and used them to thicken soup and make mush. Wood from Gambel oak is valued for fence posts and firewood. Gambel oak is truly a valuable Arizona plant for many reasons.

Featured Bird

Common Name: Gambel's Quail
Scientific Name: *Callipepla gambelii*



Dan L. Fischer

Dan L. Fischer. Author of *Early Southwest Ornithologists, 1528-1900*, University of Arizona Press.

Dr. William Gambel, the discoverer of this appealing ground-dwelling bird, could hardly have asked for a more exciting and beautiful avian namesake. In spring, the male Gambel's Quail often perches atop a stump or some other prominent lookout, his black topknot or plume whiffling in the breeze, tilts his head back, and with closed eyes, repeatedly sings his lovely song. At this time he is seeking a mate while declaring his territory and warning off other males.

Occurring throughout the year in the southern and western desert and grassland regions of the state, Gambel's Quail generally begin laying eggs in early March and usually hatch 10 to 14 chicks per clutch. The young are *precocial*, meaning they leave the nest almost immediately after hatching. In family coveys, they follow their parents for protection in tight groups, as their mortality rate can be extremely high. Fortunately, within several days the tiny chicks become accomplished flyers and often take to the wing to escape danger. Adult birds, especially the males, are very protective, sometimes losing their lives against predators in defense of their young.

With conditions uncertain and often far from normal, populations fluctuate greatly, but some areas seem to retain their numbers over the long haul by successfully fledging enough young to reach breeding age the following year. When predation is high and shelter is removed by human activity or if drought conditions persist, populations drop, at times amounting to a net loss. Their numbers have hardly been

maintained over the years for in 1896, Harry S. Swarth, a young scientist, on his first horse and wagon trip to southern Arizona, wrote that they "were rarely, if ever, out of sight or hearing." Although still common in some areas, their numbers do not begin to resemble the accounts of the early naturalists.

In 1841, William Gambel, a young enthusiastic naturalist of nineteen from Philadelphia, set out with a wagon train of traders and trappers in search of new flora and fauna in the west. Among the many new birds he noted was the first description of a "handsome species" that "conspicuously display the long crest." He sent his complete description to Thomas Nuttall, his mentor and another great naturalist, who named it in Gambel's honor. Returning east four years later, Gambel failed to gain a desired position as curator at the Academy of Natural Sciences of Philadelphia. Undaunted, he qualified to practice medicine, married and then preceded his bride to California with the intention of setting up a practice and further pursue his interests in natural history. Tragically, when undertaking the difficult crossing of the Sierra Nevada en route to San Francisco, he contracted typhoid fever while caring for sick gold miners, dying at the early age of only twenty-six in 1849. Even at his young age, Gambel had already published and made many new scientific discoveries. Mountain Chickadee (*Poecile gambeli*) and Gambel Oak (*Quercus gambelii*) also bear his name.