ACORN WOODPECKER - MELANERPES FORMICIVORUS

Walter Lantz is believed to have patterned the call of his cartoon character Woody Woodpecker on that of the acorn woodpecker, while patterning his appearance on that of the pileated woodpecker which has a prominent crest.

Taxonomy: Kingdom: Animalia Phylum: Chordata Class: Aves Order: Piciformes Family: Picidae Genus: Melanerpes Species: M. formicivorus

Habitat:

Biomes: Acorn Woodpeckers live year-round in oak and pine-oak woodlands of western Oregon, California, and the Southwest through Mexico and Central America. They also live in other habitats with oaks present or nearby, including streamside forests, Douglas-fir forests, redwood forests, tropical hardwood forests, suburban areas, and urban parks. Though found as low as sea level, they are more common in mountains, ranging up to the elevation limit of oak trees.

Distribution:

In US: The breeding habitat is forested areas with oaks in the hills of coastal areas and foothills of California and the southwestern United States south to Colombia. This species may occur at low elevations in the north of its range, but rarely below 1,000 m (3,300 ft) in Central America, and it breeds up to the timber line.

In Other Countries: NONE

Holistic Description: Reminiscent of a troupe of wide-eyed clowns, Acorn Woodpeckers live in large groups in western oak woodlands. Their social lives are endlessly fascinating: they store thousands of acorns each year by jamming them into specially made holes in trees. A group member is always on alert to guard the hoard from thieves, while others race through the trees giving parrotlike waka-waka calls. Their breeding behavior is equally complicated, with multiple males and females combining efforts to raise young in a single nest.

Species Richness: 7 SUBSPECIES

Population Dynamic: Acorn woodpeckers, like many other species, are threatened by habitat loss and degradation. Competition for nest cavities by non-native species is an ongoing threat in urbanized areas. Conservation of this species is dependent on the maintenance of functional ecosystems that provide the full range of resources upon which the species depends. These include mature forests with oaks capable of producing large mast crops and places for the woodpeckers to nest, roost, and store mast. Residents are encouraged to preserve mature oak and pine-oak stands of trees and to provide dead limbs and snags for nesting, roosting, and granary sites to help preserve the acorn woodpecker's population.

Evolution and Systematics:

Evolution: Reported from only one late Pleistocene (late Rancholabrean, North American Land Mammal Age, <400,000 years before present).

Systematics: Morphometrically, bill length increases clinally with latitude, whereas tarsus length, tail length, bill width, and wing chord are smallest in Arizona, New Mexico, Chihuahua, and the southern tip of Baja California and largest in populations in Oregon, California, and n. Baja California. Plumage variation is also considerable, albeit subtle. Amount of yellow on throat varies considerably, being quite yellow in the Colombian populations, relatively white in Belize, and generally intermediate elsewhere. Degree of streaking on the breast is greatest in the northwest and decreases clinally to the south.

Number of Species: 7 SUBSPECIES

Number of Genera: 7 SUBSPECIES

Physical Characteristics:

Size and Length: Length: 7.5-9.1 in (19-23 cm) Weight: 2.3-3.2 oz (65-90 g)

Wingspan: 13.8-16.9 in (35-43 cm)

Coloration: These striking birds are mostly black above with a red cap, creamy white face, and black patch around the bill. In flight, they show three patches of white: one in each wing and one on the rump. Females have less red on the crown than males.

General Body Features: Acorn Woodpeckers are medium-sized woodpeckers with straight, spike-like bills and stiff, wedge-shaped tails used for support as the birds cling to tree trunks.

Special Features of the Body: The woodpecker's beak is strong and sturdy, with a chisel-like tip for drilling holes in wood. Woodpeckers use their stiff tail as a prop while climbing in order to balance themselves.

Special Features of the Head and Sensory Organs: Woodpecker tongues, however, vary based on their diet. Some species have a tongue that is longer than their bill in order to extract insects from a hole. Woodpeckers also have a lengthened hyoid

apparatus (bones, muscle, cartilage connected to the tongue), allowing their tongue to extend incredible lengths. Woodpeckers have bristly feathers over their nostrils to prevent inhalation of wood particles as they chisel.
Dentition: BEAK/LAMELLAE/GIZZARD
Special Features of the Limbs and Digits: Their strong "zygodactyl" feet are specifically adapted to cling and grasp onto trees. Two toes face forward, and two face backward. Most songbirds have three forward-facing toes, and one backward-facing. They may peck a total of 8,000-12,000 pecks per day! Luckily, a woodpecker's skull is built to absorb this shock. Sinewy attachments at the base of a woodpecker's bill and around the brain help to minimize damage to the brain.
Any Special Internal Anatomy: Woodpeckers are often characterized as "chisel-billed" because they peck into living or dead wood to find grubs or build a nest. Cells in the tips of their beaks are constantly replaced, preventing them from wearing down over time. The woodpecker's long tongue has a barbed tip and is covered in sticky saliva. These features help the bird capture and extract insects from the holes the bird drills.
Sexual Dimorphisms: The adult male has a red cap starting at the forehead, whereas females have a black area between the forehead and the cap. Sexual size dimorphism slight.
Differences Between Juvenile Stage and Adult: Juveniles prior to the first Prebasic molt are similar to adult males, often with duller colors lacking the gloss of adults and generally with dark irises.
Behavior:
Diurnal, Nocturnal, or Crepuscular: Diurnal
Activity: Acorn Woodpeckers are such unusual birds with such complicated social behavior that they have given rise to one of the longest-running behavioral studies of birds. They live in family groups of up to a dozen or more individuals, and they cooperate in raising young and in gathering, storing, and guarding food. Even their approach to cooperative breeding is unusually complex. Some groups have multiple breeding males and females, and all of a group's breeding females lay their eggs in a single nest. Each female destroys any eggs that are present before she begins laying, resulting in the demise of more than one-third of the total eggs laid in joint nests. Once all the females have started laying their own eggs, their destructive behavior stops and they remove the debris to a nearby tree. There each egg is gradually eaten by several individuals—often including the female who laid it. Throughout the year, Acorn Woodpeckers collect acorns and wedge them tightly into holes they've made in tree bark. Acorn Woodpeckers fiercely defend these acorn granaries against other groups and any other species that might rob the stores. They also defend 15-acre territories around the granary. They occasionally wander outside the territory in pursuit of acorns and water. Birds that help at nests but don't get to breed often go out looking for breeding vacancies in other groups, up to about 10 miles away.
Locomotion: Birds hop readily up limbs and around trunks of trees, using tail as a prop. Walking does not occur. As in most woodpeckers, flight is usually undulating with dips, during which the wings are partly closed and pressed against the sides of the body, interspersed with short periods of flapping and an upward sweep before alighting.
Communication and Perception: Acorn woodpeckers have a call that sounds almost like they are laughing. Their most common call is a loud, squeaky waka-waka-waka, used for greeting family members, disputing territory boundaries, and squabbling in groups. They also give noisy trills, harsh repeated notes, chatters, and other calls.
Home Range: Highly territorial, especially of granaries and sometimes sap trees, often defending them not only against conspecifics but a wide range of potential heterospecific competitors. At granaries, interspecific defense rates are up to several times more frequent than intraspecific territorial interactions. The former, which are primarily related to competition for acorns and granary defense, peak in the fall, whereas the latter, associated more with searching for breeding vacancies, peak in the spring. Territory size is highly variable, however, and often open-ended when abutting unsuitable habitat. Territories without stores are often defended less vigorously than those with stores, since conspecific intruders commonly attempt to rob acorns when the latter are present.
Degree of Sociality: Highly social, usually lives year-round in cohesive social units. In temperate habitats, group members usually operate independently and do not forage together in their territories. However, in Belize and possibly other tropical habitats, group members often move together.
Level of Aggression: Within-group agonistic behavior is generally rare. Dominance relationships are established early among siblings, possibly within the nest. The frequency of fights decreases over the first several months after fledging and is subsequently low. Males are dominant over females. The most dramatic agonistic interactions occur during power struggles, intense fights occurring in association with the filling of reproductive vacancies within groups. During power struggles and other kinds of territorial skirmishes, birds vocalize and chase extensively, occasionally making contact and grappling with adversaries. While grappling, birds peck at each other's heads and drop, sometimes hitting the ground and remaining for several seconds before disengaging and flying away.

Migration: Resident (nonmigratory), except for one population near the Huachuca Mountains of southeastern Arizona. These birds usually leave their breeding grounds in winter (possibly heading to Mexico's Sierra Madre) as they are unable to store enough acorns to make it through winter in most years. Other populations may wander irregularly when local acorns are scarce.

Predators:

Predators: Cooper's Hawk, Accipiters, Falcons, Buteos, Owls, Bobcats, Gray Foxes, Bull Snakes, Gopher Snakes, Honey Bees, Woodrats, Chipmunks.

Anti-Predator Defenses: When a low-flying accipiter or large falcon is detected, it usually elicits an Alarm Call which alerts other group members of the potential danger. Response is typically to seek refuge in a nearby roost hole or nest cavity or to move to the side of a branch opposite the approaching predator and remain motionless. Birds captured either by humans or a Cooper's Hawk often produce shrill, loud distress calls which are very different from Alarm Calls. Such calls do not generally attract other Acorn Woodpeckers, either within or outside the social unit.

Diet and Nutrition:

Adult Diet: Acorn Woodpeckers eat acorns and insects (and other arthropods). The woodpeckers harvest acorns directly from oak trees and are famous for their habit of storing nuts—primarily acorns, but also almonds, walnuts, hazelnuts, pecans, and pinyon pine nuts—in individually drilled holes in one or more storage trees. These are known as granaries and can have upwards of 50,000 nuts stored in them. The birds drill the holes primarily in the winter, in the thick bark of dead limbs where the drilling does no harm to a living tree. Each year they reuse old holes and add some new ones. The acorns are wedged so tightly in their holes that they're very difficult for other animals to remove. After they've been stored for a while, the fit becomes looser as the acorn dries out—group members periodically check their stored acorns and move the loose ones to smaller holes. Besides converting many kinds of live and dead trees into granaries, Acorn Woodpeckers often store acorns in structures like utility poles, fenceposts, and wood-sided buildings—a practice that has brought them into conflict with more than a few protective homeowners.

Juvenile Diet: INSECTS

Special Adaptations for Getting Prey: Despite their association with acorns, Acorn Woodpeckers prefer to catch flying insects when those are available. They hunt for ants, beetles, and other insects by flying out from high perches. They may hunt insects at any time of year, often storing them in cracks or crevices. Besides nuts and insects, Acorn Woodpeckers also eat fruit, sap, oak catkins, and flower nectar, along with occasional grass seeds, lizards, and even eggs of their own species. In the spring they gather in groups to suck sap from small, shallow holes in tree bark, often using the same sets of sap holes for several years.

Reproduction:

Mode of Reproduction: Monogamous

Mating System: Highly variable, ranging from predominantly monogamy in some populations in Arizona and primarily cooperative polygyny in New Mexico to cooperative polygyny-polyandry.

Mating Season: May to August

Courtship: Courtship displays and pair-bonding as traditionally defined are absent. In nonmigratory populations, however, breeding males and females usually remain together on the same territory throughout their lives, and close attendance of breeder females during their fertile period by breeder males occurs regularly in groups containing ≥2 of the latter.

Territoriality: HOME RANGE

Mating: Copulations are infrequent and rarely observed. Pre- and postcopulatory displays are absent or rudimentary. In groups where only 1 male and 1 female are breeding, copulations are brief and uneventful. In groups containing > 1 potentially breeding male, multiple males may attempt to mount a female in succession, and males often attempt to interfere with copulation attempts by their male cobreeder. Females appear to attempt to hide copulations from other males in the group, but they ultimately may mate with > 1 male during egg-laying, leading to multiple paternity within clutches. This behavior leads to parental uncertainty among males and may result in all males helping to raise the young, whether or not those males are also related to each other.

Nesting: Acorn Woodpeckers excavate multiple cavities, any one of which may be used for nesting (the rest are used for nocturnal roosting). They dig cavities in dead or living limbs, large or small, either in the granary (storage) tree or any other large tree. The woodpeckers reuse nest holes for many years. The cavity is usually about 6 inches in diameter, and it may be 8 inches to more than 2 feet deep. Acorn Woodpeckers do not build a nest within the cavity, but during the digging process a layer of fresh wood chips usually accumulates on the bottom. They replenish the chips throughout the nesting period by pecking away at the cavity walls.

Egg-Laying: Clutch Size: 3-6 eggs Number of Broods: 1-2 broods Egg Length: 0.9-1.1 in (2.3-2.7 cm) Egg Width: 0.7-0.8 in (1.8-2 cm) Incubation Period: 11 days Nestling Period: 30-32 days Egg Description: White.
Hatching and Incubation/Gestation: Blind, featherless, and helpless.
Development: Hatchlings are blind, naked, and highly altricial. Although they lie prone for several hours after hatching, hatchlings soon balance upright, making extensive use of the large heel pads with which they hatch. Hatchlings beg with Tse and Rasp calls while waving their heads back and forth with open mouths. They close their mouths on and attempt to swallow anything they touch, including each other's heads.
Parental Care: Chicks are brooded by all adult group members, although as during incubation, breeders brood more than nonbreeding helpers and females brood slightly more than males. All group members normally help feed chicks beginning with the hatching of the first chick in the nest. Feeding rates are highest for breeder females, followed by breeder males and nonbreeding helpers. Adults enter the cavity to feed the chicks until the latter are 3–4 wk old, after which the chicks usually climb up to the nest entrance to be fed. Nestlings are fed mostly insects.
Lifespan: Up to 17.2 years.

Conservation:

Official Federal Status: Least Concern
Special Statuses in Individual States: NONE
Threats: Acorn Woodpeckers are numerous and their populations have been stable since 1966, according to the North American Breeding Bird Survey. Partners in Flight estimates the global breeding population at 5 million, with 30 percent living in the U.S. and 57 percent in Mexico. They rate a 9 out of 20 on the Continental Concern Score and they are not on the 2014 State of the Birds Watch List. While Acorn Woodpeckers are common in oak woodlands, their numbers have probably declined since historic times because of development and habitat degradation, including overgrazing and loss of oaks due to disease and habitat conversion. Oak, pine-oak, and streamside forest has been converted to other uses throughout the Acorn Woodpecker's range. In the Southwest and parts of Mexico, overgrazing has damaged mountain pine-oak habitats and streamside forests, probably reducing the Acorn Woodpecker population substantially. California populations, though not currently declining, have an uncertain future because of slow oak forest regeneration. Other threats include having nest holes taken over by European Starlings, an aggressive introduced species. Occasionally, people shoot Acorn Woodpeckers to keep them from eating nut and fruit crops. However, Acorn Woodpeckers have also shown the ability to colonize new habitats such as suburban neighborhoods, using human-made structures for roosting and acorn storage.
Conservation Efforts: ^^^^^

Extra Facts:

1. In 1923, American ornithologist William Leon Dawson called the dapper Acorn Woodpecker "our native aristocrat." Dawson wrote: "He is unruffled by the operations of the human plebs in whatever disguise…Wigwams, haciendas, or university halls, what matter such frivolities, if only one may go calmly on with the main business of life, which is indubitably the hoarding of acorns."
2. The Acorn Woodpecker has a very complicated social system. Family groups hold territories, and young woodpeckers stay with their parents for several years and help the parents raise more young. Several different individuals of each sex may breed within one family, with up to seven breeding males and three breeding females in one group.
3. All members of an Acorn Woodpecker group spend large amounts of time storing acorns. Acorns typically are stored in holes drilled into a single tree, called a granary tree. One granary tree may have up to 50,000 holes in it, each of which is filled with an acorn in autumn.
4. The Acorn Woodpecker will use human-made structures to store acorns, drilling holes in fenceposts, utility poles, buildings, and even automobile radiators. Occasionally the woodpecker will put acorns into places where it cannot get them out. Woodpeckers put 220 kg (485 lb) of acorns into a wooden water tank in Arizona. In parts of its range the Acorn Woodpecker does not construct a granary tree, but instead stores acorns in natural holes and cracks in bark. If the stores are eaten, the woodpecker will move to another area, even going from Arizona to Mexico to spend the winter.
5. In groups with more than one breeding female, the females put their eggs into a single nest cavity. A female usually destroys any eggs in the nest before she starts to lay, and more than one third of all eggs laid in joint nests are destroyed. Once all the females start to lay, they stop removing eggs.
6. The oldest Acorn Woodpecker on record was at least 17 years, 3 months old. This live bird was identified in 2009 by its colored leg band, which it had been wearing since 1992. it was banded and rereleased in California.

Notable Species:

These are: (1) M. f. bairdi, ranging from Oregon south through California to n. Baja California; (2) M. f. formicivorus, ranging through Arizona and New Mexico south through Mexico to the Isthmus of Tehuantepec; (3) M. f. angustifrons, an isolated population in the southern tip of Baja California; (4) M. f. lineatus, in e. Oaxaca and Chiapas south to Nicaragua; (5) M. f. albeolus, in the lowlands of Belize and n. Honduras; (6) M. f. striatipectus, in the mountains of Costa Rica and Panama; and (7) M. f. flavigula, consisting of several disjunct populations in the Colombian Andes.