

INCA DOVE - COLUMBINA INCA

Taxonomy: Kingdom: Animalia Phylum: Chordata Class: Aves Order: Columbiformes Family: Columbidae Genus: Columbina Species: C. inca

Habitat:

Biomes: Inca Doves use farmlands, parks, suburbs, and urban areas with open ground and scattered trees and shrubs such as palo verde and oak in dry areas of the Southwest. They generally avoid forested areas, seeking bare ground with short vegetation instead.

Distribution:

In US: The Inca Dove ranges from Costa Rica in the south to the American Southwest in the north and is often common to abundant in suitable habitat. Despite being named after the Inca Empire, this species does not occur in any of the lands that once constituted that empire. Inca doves are expanding their range in the north and south.

In Other Countries: NONE

Holistic Description: The tiny Inca Dove is covered in tan scaly-looking feathers and blends right in with its suburban desert habitats. That is, until it bursts into flight, making a dry rattling whirl with its wings while flashing chestnut underwings and white in its tail. It nods its head forward and back with each step and coos a mournful "no hope" from the trees. In recent years, this dove has expanded to the north and is now being seen as far north as Colorado, perhaps due to increased human settlement.

Species Richness: NO SUBSPECIES

Population Dynamic: CHECK THREATS

Evolution and Systematics:

Evolution: NONE

Systematics: The birds tend to become darker in southern areas. Formerly in the genus Scardafella . Sometimes considered conspecific with C. squammata of South America.

Number of Species: NO SUBSPECIES

Number of Genera: NO SUBSPECIES

Physical Characteristics:

Size and Length: Length: 7.1-9.1 in (18-23 cm) Weight: 1.1-2.0 oz (30-58 g)

Wingspan: Wingspan: 17.7 in (45 cm)

Coloration: The Inca Dove is the color of desert sands. Its tan feathers are edged in dark brown creating a scaly pattern over the entire body. Its underparts and face are paler than its back. In flight, the underwings flash a rich chestnut and the outer tail feathers flash white.

General Body Features: The Inca Dove is a small and slender dove with a long, square-tipped tail and small head. It has a thin and slightly drooping bill and short legs.

Special Features of the Body: Columbidae have unique body feathers, with the shaft being generally broad, strong, and flattened, tapering to a fine point, abruptly. In general, the aftershaft is absent; however, small ones on some tail and wing feathers may be present . Body feathers have very dense, fluffy bases, are attached loosely into the skin, and drop out easily. Possibly serving as a predator avoidance mechanism, large numbers of feathers fall out in the attacker's mouth if the bird is snatched, facilitating the bird's escape.

Special Features of the Head and Sensory Organs: Columbidae are excellent fliers due to the lift provided by their large wings, which results in low wing loading; They are highly maneuverable in flight and have a low aspect ratio due to the width of their wings, allowing for quick flight launches and ability to escape from predators, but at a high energy cost.

Dentition: BEAK/LAMELLAE/GIZZARD

Special Features of the Limbs and Digits: NONE

Any Special Internal Anatomy: Overall, the Columbidae tend to have short legs, short bills with a fleshy cere, and small heads on large, compact bodies. Like some other birds, the Columbidae have no gall bladders. In fact, however, they do have bile (as Aristotle had earlier realized), which is secreted directly into the gut.

Sexual Dimorphisms: NONE

Differences Between Juvenile Stage and Adult: Juvenile similar to adult but with subterminal bar of grayish buff on wing coverts and scapulars.

Behavior:

Diurnal, Nocturnal, or Crepuscular: Diurnal

Activity: Inca Doves walk along the ground pushing their heads forward with each step. They forage on the ground singly or in groups gently picking at the ground for seeds and grains. They move loose vegetation out of the way by tossing their bill side to side, uncovering seeds hidden below. If they are disturbed while foraging, they burst into an audible flight flashing their chestnut underwings and white outer tail feathers. They generally do not fly far after being startled and often resettle in a nearby tree or shrub. Although they often forage in groups, males maintain territory boundaries during the breeding season. Territorial males threaten intruding doves by walking in a zigzag pattern toward the intruder. If the intruder does not go away, he flips one wing up and continues to walk toward them, attacking them with his wings and bill. Male and female Inca Doves form monogamous bonds during the breeding season. Pair bonding begins with a display in which the male starts bobbing his head. If she is receptive, the female responds in kind. As courtship progresses, they begin preening each other and continue to do so throughout the breeding season. In the final step of courtship, the male faces the female and sticks his tail straight up in the air while fanning it. Within a week after the tail fanning display, the female starts building the nest. At this time, the male starts guarding his mate, herding her away from other interested males.

Locomotion: When walking head is held erect and nodded back and forth with each step. Wingbeat strong and rapid, except during short flights; then irregular and tail fanned or contracted and swung up, down, and back and forth as the birds travel at slightly over stalling speed.

Communication and Perception: The male and sometimes the female Inca Dove call a low mournful coo that sounds like they are saying "no hope." Each call lasts less than 1 second, but the bird repeats the same notes over and over. It makes an aggressive stuttering coo of 4-5 distinct notes for about 2 seconds.

Home Range: Breeding territory used for mating, foraging, nesting, and parental activities; defended against other adults. Flock and roost communally; thus spacing can be very close, especially during winter.

Degree of Sociality: These doves flock when not on territory; in good feeding areas flocks of 100 or more. Within these large flocks there are subunits of 10-40 that loaf and forage together. Song may help keep flocks together as there is a round of calling every 30-40 min. Wing sound may help also. In the breeding season they forage as individuals, pairs, or family groups.

Level of Aggression: "Horizontal display," used in territorial defense: resident male assumes a position parallel to the surface he is standing on; walks toward intruder, sometimes in a direct path, usually in a zigzag pattern; aggression calls given almost continually, mainly by the resident bird. After 10 s - 5 min of this display, resident bird frequently goes into the "Wing-up and Unilateral Rush display". In this display, resident male rushes obliquely at intruder with the distal wing raised. If the intruder stays, the birds vigorously beat each other with their wings and peck with their bills; they may rise off the ground during this fighting and sometimes draw blood. **During these agonistic displays the iris becomes engorged with blood, distended, and bright red.**

Migration: Not known to migrate.

Predators:

Predators: House cats stalk adults and also take eggs from nests. Inca Doves are a major part of the diet of Cooper's Hawks. Great-tailed Grackles chase adults at feeding areas and take eggs; Blue Jays, possibly raccoons, and ringtails also take eggs.

Anti-Predator Defenses: Usually fly away. Roosting on small branches provides some protection from predators; pyramiding may increase chances of early warning. Incubating adults do not flush until approached closely; no distraction display.

Diet and Nutrition:

Adult Diet: Inca Doves eat almost exclusively seeds. They walk along the ground picking at seeds from grasses, flowers, and shrubs. They also eat grains and seeds from bird feeders including black oil sunflower seeds, cracked corn, millet, and nyjer seeds.

Juvenile Diet: ^^^^

Special Adaptations for Getting Prey: Forage as individuals or in flocks of more than 100, with the flocks largest in late afternoon. Frequently feed with poultry. Whisk bill in dry soil to uncover hidden seeds. Almost entirely on the ground in short vegetation such as lawns. Also elevated platform bird feeders.

Reproduction:

Mode of Reproduction: Monogamous

Mating System: Little information available but monogamy appears to prevail. No information on sex ratios.

Mating Season: April to July

Courtship: Early courtship of low intensity and easily interrupted, e.g., "Head Bobbing:" bird raises its head followed by an abrupt downward movement; bill held almost horizontally and bobbing repeated many times. Early in the season males bob at females and other males. Females reciprocate but males do not-probably an important part of sex recognition, as males do not recognize females except by their response to ritual behavior. Head Bobbing occurs throughout the day. Preening of the

female's head and neck feathers by the male usually follows Head Bobbing. The female in turn preens the male. This "Mutual Preening" continues throughout the breeding period.

Territoriality: Early in the nesting season individuals tolerate more intrusion on a territory than they do later. To defend a territory, males give the "no hope" song and the aggression call while partially raising and fanning the tail. Horizontal display and Wing-up and Rush display also used. No dominance hierarchies known.

Mating: NONE

Nesting: Inca Doves nest in trees and shrubs as well as on utility poles, houses, and other structures. Nest height ranges from half a foot to 50 feet above the ground. The male gathers grasses and twigs for the female. He walks up to her with pieces of nesting material in his mouth, climbs up her back, and passes it to her or lays it by her side. She then arranges the grasses and twigs into a nest and occasionally collects nesting material herself. Males and females work together to build a rough and flimsy platform of twigs, grass, leaves, rootlets, and strips of bark. Construction takes about 3 days. The nest usually has no lining, but sometimes they put a bit of grass or a few feathers in the nest. Inca Doves often nest several times in the same year, and they frequently reuse the same nest for each attempt. Over time the nest becomes cemented with excrement left from nestlings. The nest is about 2 inches across and 1 inch high. Though they usually build their own nests they also reuse old nests built by Mourning Doves, Northern Mockingbirds, Cactus Wrens, or Northern Cardinals.

Egg-Laying: Number of Broods: 2-5 broods Egg Length: 0.8-1.0 in (2-2.5 cm) Egg Width: 0.6-0.7 in (1.5-1.8 cm) Incubation Period: 13-15 days Nestling Period: 12-16 days Egg Description: White and unmarked.

Hatching and Incubation/Gestation: Naked with sparse down.

Development: ALTRICIAL

Parental Care: Adults brood for 7–9 days, or until the young leave the nest. In most Columbidae both parents produce and feed crop milk ("pigeon milk") to the young from hatching; Inca Doves are thought to do the same. Young place their bill into the parent's mouth to receive the milk, the complete diet of the nestlings for the first few days of life. As the young grow, increasing amounts of other food items are mixed with the milk, but the quantity of milk fed remains relatively constant until the young are well grown.

Lifespan: Around 2-3 years, but up to 10 years.

Conservation:

Official Federal Status: Least Concern

Special Statuses in Individual States: NONE

Threats: Inca doves are common throughout their range, and U.S. populations increased by over 1.5% per year between 1966 and 2015, according to the North American Breeding Bird Survey. Partners in Flight estimates the global breeding population at 3 million, with 33% living in the United States and 61% in Mexico. The species rates an 8 out of 20 on the Continental Concern Score. Inca Dove is not on the 2016 State of North America's Birds' Watch List. Inca Doves appear well adapted to human settlements and have expanded north in recent years. As of 2017, they have been found as far north as Colorado, where prior to the early 1990s they were absent.

Conservation Efforts: ^^^^^

Extra Facts:

1. Some birds seem to tolerate seriously cold temperatures, but not the Inca Dove. When the temperature drops to around 20 degrees Fahrenheit, these southern doves get cold and take action, huddling together in the sunshine to stay warm. Sometimes they even sit on top of each other, forming a dove pyramid up to 3 doves high—a behavior called "pyramid roosting."
2. Most birds have an oil gland at the base of their tail called the uropygial gland. They use the oils produced by this gland to keep their feathers in tiptop shape. Doves lack these glands and instead use powder produced by their down feathers for the same purpose.
3. Inca Doves, like other doves, feed their young "pigeon milk" or "crop milk." Both males and females produce this substance in their crops (the pouch just above the stomach that birds use to store food). The walls of the crop swell with fat and proteins until the cells in the crop wall begin shedding, producing a nutritious, milky-colored secretion. Despite its appearance, it's not related to the milk produced by mammals.
4. The oldest recorded Inca Dove was at least 10 years, 10 months old when it was caught and killed by a cat in Texas in 1989. It had been banded in the same state in 1979.
5. The eyes of an Inca Dove may give away what it is feeling. Inca Doves have red eyes, but their red eyes become even brighter when they are threatened by an intruder.

Notable Species: NONE