

# PHAINOPEPLA - PHAINOPEPLA NITENS

**Taxonomy:** Kingdom: Animalia Phylum: Chordata Class: Aves Order: Passeriformes Family: Ptiliognatidae Genus: Phainopepla Species: P. nitens

## **Habitat:**

**Biomes:** Phainopeplas are found mostly in desert washes that have mesquite, acacia, palo verde, smoke tree, and ironwood. In the United States, they are widespread in parts of the Sonoran Desert and Mojave Desert, as well as the Colorado Desert in California, usually below 6,000 feet elevation. They nest in these same desert trees and feed heavily on berries of the desert mistletoe, a parasitic plant of these trees. In California, where they are less common, they also occur in open oak-sycamore woodlands, chaparral, boxthorn scrub, and Joshua tree desert, especially where fruit is available. Generally, the species uses washes, foothills, and canyons more than open desert and grassland.

## **Distribution:**

**In US:** The phainopepla ranges as far north as central California with the San Joaquin Valley and southern Utah, and south to central Mexico, the interior Mexican Plateau region; the southern edge of the plateau, the transverse mountains is its non-breeding home. It is found in hot areas, including desert oases, and is readily seen in the deserts of Arizona, southern Nevada, and southern California; also the Baja Peninsula, both Baja California-(north), and Baja California Sur where they are only breeding resident birds.

**In Other Countries:** ~~~~~

**Holistic Description:** A singular bird of the Southwest, the Phainopepla is a brilliant sight in flight. Males are silky black and slender, with an elegant crest and bold white wing patches that appear when the bird takes wing. Females are similar but a subdued gray. These glossy birds occur in desert washes, where they eat mainly mistletoe berries, and in oak and sycamore woodlands of California and Arizona. They often perch high in shrubs and catch insects on the wing.

**Species Richness:** 2 SUBSPECIES

**Population Dynamic:** CHECK THREATS

## **Evolution and Systematics:**

**Evolution:** NONE

**Systematics:** Two subspecies recognized, differentiated by wing and tail length.

**Number of Species:** 2 SUBSPECIES

**Number of Genera:** 2 SUBSPECIES

## **Physical Characteristics:**

**Size and Length:** Length: 7.1-8.3 in (18-21 cm) Weight: 0.6-1.0 oz (17.9-28.1 g)

**Wingspan:** 10.6-11.4 in (27-29 cm)

**Coloration:** Adult males are glossy black with red eyes and large white patches in the wings (visible in flight). Adult females are mousy grayish brown with red eyes; immature are similar but with brownish eyes.

**General Body Features:** A slender, long-tailed songbird with a distinct crest.

**Special Features of the Body:** NONE

**Special Features of the Head and Sensory Organs:** Their glossy black plumage helps them stay completely hidden inside the dense bushes.

**Dentition:** BEAK/LAMELLAE/GIZZARD

**Special Features of the Limbs and Digits:** When threatened or attacked, they rely upon their behavioral adaptation of mobbing by cooperatively attacking the predator.

**Any Special Internal Anatomy:** When handled by humans or pursued by predators, they would mimic the calls of other birds to confuse the 'enemy'.

**Sexual Dimorphisms:** Adult male uniformly glossy black except for wings. Inner web of primaries white, except at tips, forming a prominent white patch on wing, visible when wing is extended. Iris red, tail long, and head with prominent erectile crest. Adult female with similar pattern and structure but grayish, with pale gray (not white) wing patch.

**Differences Between Juvenile Stage and Adult:** Immatures similar to adult female but often more brownish, and with brownish iris. Most immature males exhibit delayed plumage maturation, with plumage varying individually from mixed gray and black to completely black, as in adult males.

## **Behavior:**

**Diurnal, Nocturnal, or Crepuscular:** Diurnal

**Activity:** Phainopeplas are thought to be monogamous. They commence courtship in winter. Single males initiate a courtship flight, a circling flight often quite high in the air, where they may be joined by up to 8 more birds in a loose, circling flock.

Often this display begins near dusk. As the nesting season approaches, males perform stunning displays over the nest site they choose, flying above it, then spiraling suddenly down with depressed tail and flaring wingbeats that display the striking white wing patches. Females visit several nest sites, where males entice them with courtship feeding (a few berries or insects). Males and females in Arizona defend nest sites and adjacent fruiting mistletoe with chases, threat postures (raised wings and hunched back), and harsh calls. In California, where fruit is more dispersed, males defend only the nest area itself during the nesting season. Where food is plentiful, Phainopeplas sometimes nest in loose colonies, with multiple nests in the same tree. After the nesting season, small flocks often gather where food is plentiful. Loose flocks form during migration into and out of the deserts in fall and spring, but most Phainopeplas are solitary in winter. Phainopeplas spend much of their day on a high perch, watching for intruders.

**Locomotion:** Languid, buoyant, often zigzagging flight. Rarely lands on ground, except when collecting nest material.

**Communication and Perception:** Males sing a many-syllabled rambling song that includes a distinctive whistled wheedle-ah, given throughout the day from regular song perches.

**Home Range:** Fruit and nest sites simultaneously defensible in the desert but not in woodlands, because of brief, unpredictable fruit availability and spatial separation of fruit from nest sites. In the Colorado Desert, CA, males and females establish separate territories as early as Oct, and defend them through winter. One member of a pair abandons its territory or combines it with that of its mate during spring breeding.

**Degree of Sociality:** Varies with season and habitat. In the desert, solitary in winter, with males and females defending separate territories. Territorial individuals chase away other Phainopeplas, as well as other species, from fruiting desert mistletoe. Small groups of males and females may gather in courtship displays in the desert in early spring.

**Level of Aggression:** Chases conspecific intruders in territory. Often utters Harsh Churr Note when chasing or warning intruders. Beyond perching at highest points on territory and vocalizing, no other territorial displays known. Threat Display may include hunching back and slightly raising wings.

**Migration:** Short-distance migrant.

#### **Predators:**

**Predators:** One report of adult killed by a Loggerhead Shrike. Nestlings killed by Cactus Wren (*Campylorhynchus brunneicapillus*) and Loggerhead Shrike. Nestlings disappear at night, perhaps to rodents such as wood rats (*Neotoma* spp.) observed near nest. Eggs eaten by Cactus Wrens, Western Scrub-Jays, Common Ravens (*Corvus corax*), antelope ground squirrels (*Ammospermophilus leucurus*), and gopher snakes (*Pituophis melanoleucus*). In some cases, Loggerhead Shrikes apparently attracted to nests by activities of researcher.

**Anti-Predator Defenses:** Adult mobs jays, shrikes, snakes, and coyotes; vocalizes and sometimes clicks bill during mobbing. Group of as many as 10 Phainopeplas mobs Western Scrub-Jays in summer habitat. Occasionally imitates other species softly when human approaches nest.

#### **Diet and Nutrition:**

**Adult Diet:** Phainopeplas eat mainly fruit, particularly desert mistletoe berries in fall through spring, as well as boxthorn, elderberry, redberry, juniper, and sumac fruits. They also eat flying insects captured in short, sallying flights or longer, sustained flights. Males and females defend separate winter feeding territories (about an acre in extent). Phainopeplas also glean bugs, beetles, and caterpillars from vegetation. Nesting birds feed young mainly insect prey, which is richer in protein than fruits. Phainopeplas rarely go to the ground to feed but do venture to the ground to gather nesting material.

**Juvenile Diet:** ^^^^^

**Special Adaptations for Getting Prey:** Digestive apparatus of Phainopepla is highly specialized to process large numbers of mistletoe berries by rapidly removing skin of berry, or exocarp, within digestive tract. Foraging bird fills crop with berries, then passes them singly to gizzard. Gizzard small, averaging only 1.5% of body mass. Will contain a single, 3-5 mm diameter fruit. Gizzard contracts and extrudes seed and semi-liquid pulp out of exocarp into small intestine.

#### **Reproduction:**

**Mode of Reproduction:** Monogamous

**Mating System:** Socially monogamous.

**Mating Season:** Jan to May

**Courtship:** In courtship flights near twilight, 1-9 birds of both sexes fly in a loose, circling flock 25-100 m above ground, usually initiated by a single male. Females make extraterritorial excursions in which they temporarily consort with a male on his territory, which may be several hundred meters distant. In courtship assemblages, 4-14 birds chase and perform Nest Displays in vegetation for 5-20 min.

**Territoriality:** HOME RANGE

**Mating:** Courtship in desert and coastal woodlands of California similar, except for absence of courtship assemblages and courtship flights in woodlands.

**Nest Placement:** Males select the nest site, usually in the fork of a tree or inside a mistletoe plant, about 6–16 feet above the ground. Most nests are in natural habitat, but nests in fruit orchards have been reported.

**Nest Description:** Males construct a small, tidy, cup-shaped nest of twigs, stems, and plant fibers, held together with spider silk and lined with hair or down. Females sometimes add part of the lining. Nests measure about 4 inches across and 1.9 inches high, with the interior cup 2.5 inches across and 1.2 inches deep.

**Egg-Laying:** Clutch Size: 2-4 eggs Number of Broods: 1 brood Nestling Period: 14-20 days Egg Description: Round. Light grayish, with small dark speckles.

**Hatching and Incubation/Gestation:** Helpless with sparse white down, skin grayish black.

**Development:** Altricial. Scant white down along feather tracts. Grayish-black skin. Bill black; edges of mouth yellow. Pale pink gape. Eyes closed. Prominently bulging abdomen. Body flexed with head resting on lower abdomen.

**Parental Care:** Throughout nestling period, female makes 5–6 visits/h. Perhaps associated with differences in food availability; role of male variable. Brooding typically continuous with incubation, declines markedly after 4 d posthatching.

**Lifespan:** NONE

**Conservation:**

**Official Federal Status:** Least Concern

**Special Statuses in Individual States:** NONE

**Threats:** Phainopepla populations declined by an estimated 8% between 1970 and 2016, according to Partners in Flight. The global breeding population is an estimated 3.2 million, according to Partners in Flight, and rates a 10 out of 20 on the Continental Concern Score, indicating it is a species of low conservation concern. Habitat loss from conversion of desert riparian areas for agricultural use has led to reductions in the number and size of breeding and wintering populations.

**Conservation Efforts:** ^^^^^^^^

**Extra Facts:**

1. The name "Phainopepla" comes from the Greek for "shining robe," a fitting characterization of the shiny, jet-black plumage of the adult male.
2. Phainopeplas are the only U.S. representative of the family Ptilonotidae, known as "silky-flycatchers." They are not related to North American flycatchers; their nearest common ancestors are the waxwings, which also have a glossy, silky look to their plumage. Phainopeplas are also related to Palmchats, which occur only on the island of Hispaniola.
3. Phainopeplas have digestive tracts specialized for eating mistletoe fruit. These berries are low in nutrients, so the birds have to consume lots of them. The berries spend only about 12 minutes in a Phainopepla's intestine, and the birds may eat 1,100 berries in a day.
4. Phainopeplas mimic the calls of other birds, including Red-tailed Hawks, Northern Mockingbirds, Northern Flickers, Gambel's Quail, Mourning Doves, Verdins, Acorn Woodpeckers, scrub-jays, and American Kestrels.
5. Phainopeplas adjust their nesting schedule according to when their favored foods ripen. Ornithologists suspect (but have been unable to determine for sure) that some Phainopeplas nest in one location, then move to another habitat and nest again during the same year.
6. The Phainopepla behaves strikingly differently in its two main habitats. In the desert, it is territorial, actively defending nesting and foraging sites, while in the woodlands it is colonial, with as many as four nesting pairs sharing one large tree.
7. The Phainopepla rarely drinks water. Instead, it gets the water it needs from its diet of mistletoe.

**Notable Species:**

1. *P. nitens nitens* - Occupies U.S. portion of species range from California east to w. Texas.
2. *P. nitens lepida* - Ranges (possibly resident in part) from sw. Texas.