

# SPOTTED TOWHEE - PIPILLO MACULATUS

**Taxonomy:** Kingdom: Animalia Phylum: Chordata Class: Aves Order: Passeriformes Family: Passerellidae Genus: Pipilo  
Species: P. maculatus

## **Habitat:**

**Biomes:** Spotted Towhees are birds of dry thickets, brushy tangles, forest edges, old fields, shrubby backyards, chaparral, coulees, and canyon bottoms, places with dense shrub cover and plenty of leaf litter for the towhees to scratch around in.

## **Distribution:**

**In US:** The spotted towhee lives in dry upland forests and breeds across north-western North America. It is present in California, Nevada, Arizona, Utah, Oregon, Washington, and southern British Columbia year round. It is not found in arid climates and as a result does not reside in the Sonoran Desert, but resides in northern Arizona and the entirety of California except the southeast corner that borders Arizona.

**In Other Countries:** ^^^^

**Holistic Description:** The Spotted Towhee is a large, striking sparrow of sun-baked thickets of the West. When you catch sight of one, they're gleaming black above (females are grayish brown), spotted and striped with brilliant white. Their warm rufous flanks match the dry leaves they spend their time hopping around in. The birds can be hard to see in the leaf litter, so your best chance for an unobstructed look at this handsome bird may be in the spring, when males climb into the shrub tops to sing their buzzy songs.

**Species Richness:** 21 SUBSPECIES

**Population Dynamic:** Their main predators in less developed areas are ground dwelling snakes because nests are built on the ground. There is a strong relationship between the number of snakes that a nest encounters and the lowered probability of young chicks fledgling. In developed areas and habitat near urban development their main predators are household cats.

## **Evolution and Systematics:**

**Evolution:** Several late Pleistocene (Rancholabrean North American Land Mammal Age, <400,000 yr before present) and Holocene fossils known from California (Carpinteria, Rancho La Brea), Utah (Catfish Canyon, Holocene), and New Mexico.

**Systematics:** Dorsal coloration falls into two broad groups, the black-backed birds from n. Mexico northward and south of the Isthmus of Tehuantepec and green-backed birds in central Mexico. Plumage pattern, body mass, and some mensural characters in green-backed populations are influenced by ongoing hybridization with the Collared Towhee, an endemic to western and central Mexico.

**Number of Species:** 21 SUBSPECIES

**Number of Genera:** 21 SUBSPECIES

## **Physical Characteristics:**

**Size and Length:** Length: 6.7-8.3 in (17-21 cm) Weight: 1.2-1.7 oz (33-49 g)

**Wingspan:** 11.0 in (28 cm)

**Coloration:** Male Spotted Towhees have jet-black upperparts and throat; their wings and back are spotted bright white. The flanks are warm rufous and the belly is white. Females have the same pattern but are grayish brown where males are black. In flight, look for white corners to the black tail.

**General Body Features:** A large sparrow with a thick, pointed bill, short neck, chunky body, and long, rounded tail.

**Special Features of the Body:** Unlike some other songbird species, these are not very social. Outside of the breeding season, they do not interact with other members of their species. Even when the breeding season arrives, it takes a while for males to warm up to, and accept the females.

**Special Features of the Head and Sensory Organs:** NONE

**Dentition:** BEAK/LAMELLAE/GIZZARD

**Special Features of the Limbs and Digits:** When an intruder enters a Towhee's territory, this species performs a number of behaviors to ward off the unwanted guest. They lift and drop their wings, flick their tails, and spread their tails, to show their agitation.

**Any Special Internal Anatomy:** It turns out that being overly cautious is a good thing for these birds. These birds frequently fall victim to cowbirds. Not as prey, however, but as unsuspecting parents! Cowbirds sneak into the Towhee territories when they are not looking, push an egg out of the Towhee's nest, and replace it with their own.

**Sexual Dimorphisms:** Adult males have a generally darker head, upper body and tail with a white belly, rufous sides and white spots on the their back and white wing bars. Females look similar but are dark brown and grey instead of black.

*Differences Between Juvenile Stage and Adult:* Juvenile plumage, which is retained only a few weeks, yellowish brown to buffy brown above, dull bronzy buff below; dorsum and breast broadly streaked with dusky brown to blackish; buffy white streaks on scapulars and spots on tips of greater and median secondary coverts distributed as in adults. Tail as in adults.

**Behavior:**

*Diurnal, Nocturnal, or Crepuscular:* Diurnal

*Activity:* Spotted Towhees rummage in the leaf litter or creep through thick shrubs. Towhees tend to hop wherever they go, moving deliberately and giving themselves plenty of time to spot food items. They scratch at leaves with a characteristic two-footed backward hop, then pounce on anything they've uncovered. During conflicts between two towhees, you may see one bird pick up a piece of twig, bark, or leaf and carry it around. This seems to be an indication of submission. Disturbed or alarm-calling towhees flick their wings while perched, sometimes flashing the white corners in the tail.

*Locomotion:* Hops forward on ground during locomotion, but also hops backward during bilateral scratching (see Food habits: feeding, above). Hopping on ground varies, from slow hopping with frequent pauses while foraging, to a series of rapid hops across small openings. While hopping, lifts both feet and brings them down together. Characteristics of flight are variable, depending on social context or destination. Longer, directed, undisturbed flights are steady, or slightly jerky or undulatory because flapping tempo is discontinuous.

*Communication and Perception:* Spotted Towhees have a fairly simple song, a drier faster take on the Eastern Towhee's drink-your-tea song that often omits the middle section. It lasts about 1.5 seconds. The song starts with one or two (up to eight) short introductory notes and then a fast trill that can sound like a taut rubber band being plucked, or a piece of paper stuck into a fan. Some Spotted Towhee songs have just the trill phrase only.

*Home Range:* Male establishes and defends territory. Intruding males are immediately chased, but intruding females (paired and unpaired) are not excluded. Boundaries, at least in some cases, are narrow, linear zones in which neighbors often forage unmolested after territories are established; in two cases involving a common boundary zone between contiguous territories, three pairs occasionally fed amicably within 2–3 m of each other.

*Degree of Sociality:* Little or no true sociality. Found in loose groups, perhaps aggregations sensitive to patchy distribution of food and cover, during the nonbreeding season.

*Level of Aggression:* Fighting and chasing both occur during territorial disputes, but former is relatively infrequent in population containing established territories. Supplanting attacks are most common in dominance-related disputes where territorial space is not an issue. When fights occur, usually between males; encroaching male is driven out or withdraws. During territory establishment in early spring, fights may be intense. During this time, aerial, face-to-face, grappling fights were observed (males flew to 0.5 m above ground facing one another, grabbing with claws, and using wings and bill as weapons, then fell to ground locked together with one wing extended; feathers dislodged during engagement).

*Migration:* Resident or short-distance migrant.

**Predators:**

*Predators:* Western-Scrub Jay, King Snake, California Ground Squirrel, Jay, Snake, Striped Skunk, Gray Squirrel, Weasels, Cowbird, Raccoon, Rats, Accipiters, Cooper's Hawks.

*Anti-Predator Defenses:* Nesting adult male and female towhees respond to predators with alarm calls and mobbing. A female towhee defended her nest from a Western Scrub-Jay by hovering in front of the jay and screaming; this behavior brought the male to the nest, and the jay retreated. In another case of defending the nest against predators, a male rushed at a king snake with wings extended, tail fanned, and head down, continuing the attack for 8 min; both sexes called loudly and persistently, and the snake left without harming nestlings.

**Diet and Nutrition:**

*Adult Diet:* In the breeding season, Spotted Towhees eat mainly insects including ground beetles, weevils, ladybugs, darkling beetles, click beetles, wood-boring beetles, crickets, grasshoppers, caterpillars, moths, bees, and wasps. Other leaf-litter arthropods such as millipedes, sowbugs, and spiders are taken as well. They also eat acorns, berries, and seeds including buckwheat, thistle, raspberry, blackberry, poison oak, sumac, nightshade, chickweed, and crops such as oats, wheat, corn, and cherries. In fall and winter, these plant foods make up the majority of their diet.

*Juvenile Diet:* ^^^^^

*Special Adaptations for Getting Prey:* Ground-feeding bird that traverses foraging beat: an irregular linear course through feeding site, covering ground by slow hopping interrupted with frequent pauses for inspection, bilateral scratching, or food capture. The most common food capture technique is to snatch food from ground and head-level foliage with forward glean; rarely, flies vertically from ground (hawking) to about 60 cm after aerial insects, or chases large insect on ground.

**Reproduction:**

*Mode of Reproduction:* Monogamous

**Mating System:** Primarily monogamous, but 4 cases of bigamy reported in a study of color-banded Spotted Towhees in Oregon.

**Mating Season:** Early Feb to Mid March

**Courtship:** During pair formation, sexual chasing (1 or 2 males pursuing 1 female) occurs.

**Territoriality:** HOME RANGE

**Mating:** During copulation, which occurs either on the ground or on low perches (at least to 4 m), female holds this posture. Coition lasts only a few seconds, then male flies away. Male usually mounts from a position beside the female. No known post-copulatory calls or visual displays by either sex.

**Nest Placement:** Spotted Towhees place their nests either on the ground or near it (though occasionally up to 12 feet high). They often choose fairly exposed areas over sites deep inside a thicket, but within these areas they find a clump of grass, a log, or the base of a shrub to conceal their nests against.

**Nest Description:** The female builds the nest beginning with a framework of dry leaves, stems, and bark strips. She lines this with an inner cup of fine, dry materials such as grasses, rootlets, pine needles, and hair. The finished nest is about 4.5 inches across, with an inner cup 2.5-4 inches across and about 2.5 inches deep. Ground nests are built into depressions so that the nest rim is at the soil surface or only slightly above it.

**Egg-Laying:** Clutch Size: 2-6 eggs Number of Broods: 1-3 broods Egg Length: 0.8-1.0 in (2-2.6 cm) Egg Width: 0.7-0.8 in (1.7-1.9 cm) Incubation Period: 12-13 days Nestling Period: 10-12 days Egg Description: White, gray, green, or pinkish, spotted with reddish brown, purple or gray.

**Hatching and Incubation/Gestation:** Naked except for sparse tufts of grayish down, eyes closed, clumsy.

**Development:** Nidicolous, altricial -- young are blind, largely naked at hatching. No information on neonate mass. Newly hatched young has abundant down localized on upper body tracts and wings.

**Parental Care:** Adults of both sexes feed young. Baumann reported that early in the nestling period male brings most food while the female broods; later, female supplies more food than earlier, but male continues to provide more food than female.

**Lifespan:** Around 7 years.

#### **Conservation:**

**Official Federal Status:** Least Concern

**Special Statuses in Individual States:** NONE

**Threats:** Spotted Towhees are widespread and abundant and their numbers remained relatively stable between 1966 and 2014, according to the North American Breeding Bird Survey. Partners in Flight estimates a global breeding population of 33 million with 79% spending some part of the year in the U.S., 23% in Canada, and 20% in Mexico. They rate an 8 out of 20 on the Continental Concern Score and are not on the 2014 State of the Birds Watch List. Development creates more of their preferred shrubby, open habitat, but in these areas they are also vulnerable to predation by cats. Forms on a few islands off California and Mexico may be affected by habitat loss or overgrazing.

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

#### **Extra Facts:**

1. Watch a Spotted Towhee feeding on the ground; you'll probably observe its two-footed, backwards-scratching hop. This "double-scratching" is used by a number of towhee and sparrow species to uncover the seeds and small invertebrates they feed on. One Spotted Towhee with an unusable, injured foot was observed hopping and scratching with one foot.
2. The Spotted Towhee and the very similar Eastern Towhee used to be considered the same species, the Rufous-sided Towhee. The two forms still occur together in the Great Plains, where they sometimes interbreed. This is a common evolutionary pattern in North American birds – a holdover from when the great ice sheets split the continent down the middle, isolating birds into eastern and western populations that eventually became new species.
3. Early in the breeding season, male Spotted Towhees spend their mornings singing their hearts out, trying to attract a mate. Male towhees have been recorded spending 70 percent to 90 percent of their mornings singing. Almost as soon as they attract a mate, their attention shifts to other things, and they spend only about 5 percent of their time singing.
4. Spotted Towhees live in drier habitats than Eastern Towhees. Some scientists have suggested that the bold white spots on Spotted Towhees' backs help them blend in to the sun-dappled undergrowth.
5. The oldest recorded Spotted Towhee was a male, and at least 11 years old when he was recaptured and rereleased during banding operations in California.

#### **Notable Species:**

