

BLUE-GRAY GNATCATCHER - POLIOPTILA CAERULEA

Taxonomy: Kingdom: Animalia Phylum: Chordata Class: Aves Order: Passeriformes Family: Polioptilidae Genus: Polioptila
Species: P. caerulea

Habitat:

Biomes: Blue-gray Gnatcatchers nest and forage in a broad range of wooded habitats across their extensive breeding range. Although they shun coniferous forests lacking rich understory growth, they use a range of broadleaf and mixed woodlands from chaparral to mature forests. They prefer moist areas, often near habitat edges. In the northernmost parts of their range, they nest along rivers and streams or near lakes, particularly in ash, maple, and oak forests. In the Southwest, oak and pinon-juniper woodlands, chaparral, and willow and cottonwood woodlands near water all provide habitat. Throughout the south-central and mid Atlantic states, they claim territories in upland broadleaf and mixed forests as well as along streams and rivers. Farther south, they add swamp forests and pine flatwoods with oak understory. They favor the edges of forest gaps, so extensive patch-cut logging can provide abundant habitat. Their winter habitats are similarly various from region to region, and may include cypress swamps, citrus orchards, mangroves, savannah with scattered groves, and a range of woodlands from sea level swamp forests to highland oaks.

Distribution:

In US: The blue-gray gnatcatcher's breeding habitat includes open deciduous woods and shrublands in southern Ontario, the eastern and southwestern United States, and Mexico.

In Other Countries: NONE

Holistic Description: A tiny, long-tailed bird of broadleaf forests and scrublands, the Blue-gray Gnatcatcher makes itself known by its soft but insistent calls and its constant motion. It hops and sidles in dense outer foliage, foraging for insects and spiders. As it moves, this steely blue-gray bird conspicuously flicks its white-edged tail from side to side, scaring up insects and chasing after them. Pairs use spiderweb and lichens to build small, neat nests, which sit on top of branches and look like tree knots.

Species Richness: 7 SUBSPECIES

Population Dynamic: CHECK THREATS

Evolution and Systematics:

Evolution: NONE

Systematics: Variation in dorsal color across the species' range appears to follow Gloger's rule in that birds in more arid regions, such as the Southwest, tend to be grayer and paler than those in more humid regions, such as the East or in tropical Mexico, where individuals tend to be bluer or darker. Southern populations are grayer ventrally, northern ones are whiter.

Number of Species: 7 SUBSPECIES

Number of Genera: 7 SUBSPECIES

Physical Characteristics:

Size and Length: Length: 3.9-4.3 in (10-11 cm) Weight: 0.2-0.3 oz (4.8-8.9 g)

Wingspan: 6.3 in (16 cm)

Coloration: Blue-gray Gnatcatchers are pale blue-gray birds with grayish-white underparts and a mostly black tail with white edges. The underside of the tail is mostly white. The face is highlighted by a thin but obvious white eyering. In summer, male Blue-gray Gnatcatchers sport a black 'V' on their foreheads extending above their eyes.

General Body Features: Blue-gray Gnatcatchers are tiny, slim songbirds with long legs; a long tail; and a thin, straight bill.

Special Features of the Body: NONE

Special Features of the Head and Sensory Organs: NONE

Dentition: BEAK/LAMELLAE/GIZZARD

Special Features of the Limbs and Digits: NONE

Any Special Internal Anatomy: NONE

Sexual Dimorphisms: Sexes alike in basic plumage, but males distinguished from females in alternate plumage (Jan-Aug) by black forehead and supercilium. Females are less blue.

Differences Between Juvenile Stage and Adult: Juveniles washed grayish overall with fleshy gape and loosely-textured contour feathers.

Behavior:

Diurnal, Nocturnal, or Crepuscular: Diurnal

Activity: The Blue-gray Gnatcatcher is a busy forager. It flits through dense outer foliage, hops and sidles along branches, peering with quick head movements to glean small insects and spiders. Flashing the white edges of their long tail may help

them flush prey, which they then snap up while the gnatcatcher is perched, hovering, or sallying into the air after them. Pairs bond quickly on the breeding ground, with the male's initial aggression toward intruders softening as he leads the female around the territory. They explore possible nesting sites together, with one or the other occasionally mimicking nest-building. These gnatcatchers are pugnacious defenders of their territories, attacking much larger birds as well as intruding neighbors. Adults mob potential predators with other small birds. The male and female of a pair often cooperate in challenging an interloper. The male's soft territorial songs and the female's aggressive calls quickly turning to extended chase, usually by the male. More intense aggression involves soaring aerial confrontation and bill snapping, and even prolonged grappling on the ground. Although the female does most of the brooding, the male shares nest-building, incubation, and the feeding of nestlings and fledglings. While there seems to be little predation on adults, nestlings and eggs are taken by jays, magpies, and woodpeckers, and probably by snakes, crows, grackles, raccoons, squirrels, and chipmunks.

Locomotion: Hops on ground where it seldom descends. Hops and sidles along branches, some movements wing-assisted when moving through foliage. Sometimes clings briefly to tree trunks. Flight fluttering with light moth like wing action, direct with occasional glides with wings closed. Infrequently seen in sustained flight; flights usually fairly short between trees and shrubs.

Communication and Perception: Males have two song types. The simpler is a variable series of 4 to 8 short, soft phrases. This is sung early in the nesting season and, once nesting has begun, shortly after sunrise and in territorial disputes. It may occasionally be sung on wintering grounds. More complex songs are sung from early morning to midday. These continuous jumbles of sharp chips, high-pitched whistles, and mewing notes are 10 seconds or more long and often include mimicked bits from the repertoires of jays, tanagers, towhees, vireos, warblers, sandpipers, and other species. Songs may be sung from elevated perches, while feeding, or while in motion.

Home Range: Nesting gnatcatchers defend single pair all-purpose territories. Males begin defending a territory upon return to nesting areas. Boundaries established by regular patrolling of perimeter of territory with frequent singing. Females often accompany patrolling males. 1.8 HA.

Degree of Sociality: Essentially solitary or in pairs. Family groups of 3 to 6 birds remain together until mid-Aug. Loose aggregations occur during migration and the non-breeding season, but these seem fortuitous as gnatcatchers are more frequent as members of multi-species flocks. Flocking behavior may vary geographically and temporally.

Level of Aggression: Chases and fights generally follow aggressive posturing and calling. Territorial birds of either sex initially fly at or dive upon same sex intruders with audible bill snap. If intruder does not stand ground it is chased out of territory up to 21 m. When intruder does not flee, aerial fights ensue, combatants fluttering breast-to-breast with bills snapping. Fighting birds often rise above initial height, to a maximum of 12 m.

Migration: Resident to long-distance migrant. Northern breeders are long distance migrants. Most southerly birds are short distance migrants, and some are year-round residents.

Predators:

Predators: Cooper's Hawks, Red-tailed Hawks, Barn Owl, Western Screech Owl, Northern Pygmy-Owl, Loggerhead Shrike, Sharp-shinned Hawk, Scrub Jay, Yellow Billed Magpie, Red-bellied Woodpecker.

Anti-Predator Defenses: Adults mob potential predators. Mobbing birds recruit other small birds with persistent, loud mobbing calls similar to aggressive calls. They harass predators by diving at head with bill snap, hovering around head, and by persistently following them.

Diet and Nutrition:

Adult Diet: Blue-gray Gnatcatchers eat small insects, spiders, and other invertebrates. Prey species vary across their extensive range. In the Southwest, for example, prey include treehoppers, froghoppers, leaf hoppers, plant bugs, tree bugs, leaf beetles, weevils, wolf spiders, caterpillars, and grasshoppers. In the Northeast, adult and larval moths can provide up to half of prey taken. The smallest prey are swallowed alive. The wings are torn off larger prey and their bodies beaten on a perch prior to being eaten. Parents generally feed the young these same foods, offering progressively larger whole prey as the chicks mature.

Juvenile Diet: Similar, GRASSHOPPERS AND CATERPILLARS.

Special Adaptations for Getting Prey: Feeds in dense vegetation mostly near tips of branches in broad-leaved foliage of trees and larger shrubs. Searches for prey by moving up and down through outer foliage and occasionally along branches toward trunk, peering with quick head movements. Moves tail constantly, which may flush unseen prey.

Reproduction:

Mode of Reproduction: Monogamous

Mating System: Monogamous; no documented evidence of polyandry or polygyny.

Mating Season: February to May

Courtship: Courtship little known, apparently rapid. Relatively few unpaired males seen in breeding areas soon after spring arrival. Initial male response to a strange female in its territory may be aggressive, with subtle changes in behavior as male then proceeds to lead the female around the territory. Male often adopts upright posture and gives soft, complex song as he accompanies female. Occasionally male may sit in potential nest sites followed by female inspecting site. When this occurs either sex may show actions similar to nest-building.

Territoriality: HOME RANGE

Mating: NONE

Nest Placement: Male and female jointly choose a nest site, usually in a live broadleaf tree in a less dense bit of their territory. Nests are built well out on side limbs, often saddled against a side branch or around a twig or knot for support. Nests tend to be higher than the midpoint of the tree.

Nest Description: Both sexes cooperate in building the neat, open, cuplike nest. They take up to two weeks to build the 2–3-inch wide nest, which is held together and attached to its branch with spider webbing and decorated with lichen. The nest's high walls are built in flexible layers. The main structural layer is built of fibrous materials like plant stems, bark strips, and grasses, all held together by spiderweb or caterpillar silk. Inner layers become progressively finer, and the roughly 1.5-inch-wide cup is lined with plant down, paper, cocoons, hair, or feathers. The outside is covered with webbing or silk decorated with bits of lichen or bark flakes. They often build a series of nests during a summer to counteract the effects of predation, mite infestations, or cowbird parasitism. Materials from earlier nests are frequently recycled to build later nests, which may be why they are usually completed more quickly than first nests. The male often builds second nests nearly solo, with the female finishing the inside of the first nest with softer materials.

Egg-Laying: Clutch Size: 3-5 eggs Number of Broods: 1-2 broods Egg Length: 0.5-0.6 in (1.3-1.6 cm) Egg Width: 0.4-0.5 in (1.1-1.2 cm) Incubation Period: 11-15 days Nestling Period: 10-15 days Egg Description: Pale blue spotted with reddish to dark brown.

Hatching and Incubation/Gestation: Born naked and helpless, with eyes closed and little movement.

Development: Altricial (eyes closed, no feathers, little mobility) and nidicolous (remain in the nest). Weight and measurement at hatching little known; one hatchling in n. Florida weighed 0.64 g. Mouth lining yellow with two black spots on tongue; eyes closed; respond to jostling of nest by raising head and gaping.

Parental Care: Begins soon after young hatch; at least part of time through day 6; infrequent by days 7 and 8. Both parents feed young. Male makes more feeding trips to nest early in nestling period (days 1–4) because female spends more time brooding young. Later in nestling period female may feed young at a higher rate than male. Food is given to young whole; large prey are manipulated by adult to make them more manageable for young.

Lifespan: 3-4 years

Conservation:

Official Federal Status: Least Concern

Special Statuses in Individual States: NONE

Threats: Blue-gray Gnatcatchers are numerous and their overall populations have been stable and slightly increased between 1966 and 2014, according to the North American Breeding Bird Survey. Growth appears to have been particularly strong in the West. Partners in Flight estimates a global breeding population of 160 million, with 74% spending some part of the year in the U.S. and 65% in Mexico. They rate a 7 out of 10 on the Continental Concern Score and are not on the 2014 State of the Birds Watch List. The largest populations are in the southeastern U.S. Despite their high numbers, nests are very vulnerable to cowbird parasitism. Adult gnatcatchers attack intruding cowbirds, but once a cowbird has laid an egg in their nest, these tiny birds have no ability to eject or puncture it.

Conservation Efforts: ^^^^^^^

Extra Facts:

1. The Blue-gray Gnatcatcher's grayish coloring and long tail, as well as the way it mixes snippets of other birds' repertoires into its own high, nasal songs, have earned it the nickname "Little Mockingbird."
2. The nesting range of Blue-gray Gnatcatchers has been shifting northward since the early twentieth century. Over the last quarter of that century, the shift was about 200 miles, in concert with increasing average temperatures.
3. A pair of Blue-gray Gnatcatchers can build up to seven nests in a breeding season. They often re-use nest material from previous nests, which speeds re-nesting. This can be essential to breeding success, since predation, nest parasitism, or mite infestations frequently cause nest loss and brood failure.
4. Occasionally, significant numbers of Blue-gray Gnatcatchers "overshoot" on their spring migrations and end up much further north than usual. They may be carried past their target by strong southwest winds in warm regions, and

by strong northerly winds on the west side of high pressure systems. Most probably make their way back south before nesting.

5. In spite of their name, gnats do not form a significant part of the Blue-gray Gnatcatcher's diet.
6. Fiercely territorial Blue-gray Gnatcatchers may use vocal displays and postures to chase a rival as far as 70 feet. Further resistance by an intruder may provoke midair confrontations, with the two birds climbing steeply, breast-to-breast, snapping at each other.
7. The Blue-gray Gnatcatcher is the northernmost-occurring species of gnatcatcher, and the only truly migratory one. Most members of its genus are resident in Central and South America.
8. The oldest known Blue-Gray Gnatcatcher was a male, and at least 4 years, 2 months old, when it was recaptured at a banding station in Pennsylvania and rereleased.

Notable Species: USE NOMINATE.