

BLACK-AND-WHITE WARBLER - MNIOTILTA VARIA

Taxonomy: Kingdom: Animalia Phylum: Chordata Class: Aves Order: Passeriformes Family: Parulidae Genus: Mniotilta
Species: M. varia

Habitat:

Biomes: Black-and-white Warblers typically use deciduous forests and mixed forests of deciduous trees and conifers. They can be found in many habitats during migration, especially woodlots and forests in riparian settings. On their tropical wintering grounds Black-and-white Warblers use an immense range of habitats, including lawns, gardens, and other urban settings, fruit orchards, shade-coffee plantations, wetlands, mangroves, and all types of forests.

Distribution:

In US: It breeds in northern and eastern North America and winters in Florida, Central America, and the West Indies down to Peru. This species is a very rare vagrant to western Europe.

In Other Countries: Accidental in n. Europe, usually in fall.

Holistic Description: One of the earliest-arriving migrant warblers, the Black-and-white Warbler's thin, squeaky song is one of the first signs that spring birding has sprung. This crisply striped bundle of black and white feathers creeps along tree trunks and branches like a nimble nuthatch, probing the bark for insects with its slightly downcurved bill. Though you typically see these birds only in trees, they build their little cup-shaped nests in the leaf litter of forests across central and eastern North America.

Species Richness: NO SUBSPECIES

Population Dynamic: The IUCN classifies the black-and-white warbler as Least Concern due to its large range and population size. However, its population is decreasing. Habitat loss and degradation, especially forest fragmentation, are the main factors contributing to the species' decline. If habitat loss continues, in either or both summer or wintering habitat, the species may continue to decline in the future. Pesticides such as fenitrothion and phosphamidon have contributed to the species' decline in the 1970s, and others such as chlorinated hydrocarbons may continue to have an effect.

Evolution and Systematics:

Evolution: A single tentative identification of this warbler from the late Pleistocene (Rancholabrean North American Land Mammal Age, <400,000 years before present) in Miller's Cave, TX.

Systematics: Breeders in the Mississippi Valley average smaller than breeders along the Atlantic Coast, whereas the wings of breeders in the s. Appalachian Mts. average longer.

Number of Species: NO SUBSPECIES

Number of Genera: NO SUBSPECIES

Physical Characteristics:

Size and Length: Length: 4.3-5.1 in (11-13 cm) Weight: 0.3-0.5 oz (8-15 g)

Wingspan: 7.1-8.7 in (18-22 cm)

Coloration: These birds are boldly striped in black and white. Their black wings are highlighted by two wide, white wing bars. Adult males have more obvious black streaking, particularly on the underparts and the cheek. Females (especially immature) are paler, with less streaking and usually a wash of buff on the flanks. The undertail coverts have distinctive large black spots.

General Body Features: Black-and-white Warblers are medium-sized warblers (small songbirds). They have a fairly long, slightly downcurved bill. The head often appears somewhat flat and streamlined, with a short neck. The wings are long and the tail is short.

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: Has an unusually long hind toe and claw, a lengthened forelimb, and shortened tarsus, adaptations that enhance the ability to hold on to and move about on bark.

Any Special Internal Anatomy: NONE

Sexual Dimorphisms: Breeding males have a black-and-white streaked throat and black cheek, while females have a grey cheek and a white-cream coloured throat and sides. First fall males are very similar to adult females in colour and patterning, while first fall females resemble to adult females but with less streaking and a more noticeable buffy wash.

Differences Between Juvenile Stage and Adult: Juveniles are heavily spotted, and are similar to first fall individuals otherwise.

Behavior:

Diurnal, Nocturnal, or Crepuscular: Diurnal

Activity: Black-and-white Warblers crawl along tree trunks and thick limbs as they probe methodically between bark fibers for grubs and insects. Unlike Brown Creepers, which tend to move up a tree as they feed, or nuthatches, which typically move downward, this warbler moves in every direction. They forage on dead limbs and bark as well as glean foliage at the tips of branches. Male Black-and-white Warblers arrive in early spring on their forested breeding grounds and set up territories that they defend aggressively, often singing as they chase off intruders. These defensive displays extend well past the time when such behavior has tapered off for other species. A courting male chases potential mates on his territory, perching nearby and fluttering his wings. Once the pair is established, the female leads her partner to likely nest spots at the base of a tree or fallen log, and takes the lead in constructing the well-camouflaged nest.

Locomotion: Hops rather than walks. Methodically climbs about while foraging on tree trunks and thick branches, moving upward and sideways as readily as downward. Does not use tail as a brace. Also an active foliage gleaner, although it rarely hovers. Has an unusually long hind toe and claw, a lengthened forelimb, and shortened tarsus, adaptations that enhance the ability to hold on to and move about on bark.

Communication and Perception: Males sing a thin, high-pitched, repetitive weesy, weesy, weezy song that lasts about 3 seconds. On the breeding grounds, the song may be longer, faster and more varied in pitch. Males sing a softer version of the song when near females during courtship and nest building.

Home Range: In Maryland, 21 territories/40.5 ha in dense second growth, 13 territories/40.5 ha in open slash, and 11 territories/40.5 ha in virgin hardwood deciduous forest. Males arrive first and establish and vigorously defend territories. Males pursue females, often perching near them with fluttering wings. There is evidence of breeding territory philopatry in that banded individuals have been recaptured at the same study sites in subsequent years.

Degree of Sociality: One breeding female was found to be a victim of kleptoparasitism by a Worm-eating Warbler. On wintering grounds joins mixed foraging flocks of greenlets, other wood-warblers, honeycreepers, and other small insectivorous birds.

Level of Aggression: On territory, inclined to become aggressive toward conspecifics and other wood-warblers and to maintain a high level of aggression well beyond the time when aggressive behavior has attenuated in other species. N. Sodhi reports that male chases a female after her arrival on territory. When foraging, sometimes engages in chases, mostly against conspecifics.

Migration: Short- to long-distance migrant. Some individuals winter as far north as Florida and Baja California; others go as far as northern South America. This is typically one of the earliest spring arrivals among Neotropical migrants.

Predators:

Predators: Little other information available, but as a ground nester is probably vulnerable to predation throughout its life cycle.

Anti-Predator Defenses: NONE

Diet and Nutrition:

Adult Diet: Black-and-white Warblers eat mostly insects. Moth and butterfly larvae form the bulk of their diet during spring migration and throughout the breeding season. Other arthropod prey includes ants, flies, spiders, click and leaf beetles, wood-borers, leafhoppers, and weevils. They also feed on insects attracted to Yellow-Bellied Sapsucker sapwells.

Juvenile Diet: ^^^^

Special Adaptations for Getting Prey: Feeds by creeping along bark of trunk or limbs, somewhat like a nuthatch. Does not use tail as a prop. Rarely hovers. Will also foliage glean in a manner similar to that of other wood-warblers, a trait held in common with small nuthatches such as Brown-headed Nuthatch.

Reproduction:

Mode of Reproduction: Monogamous

Mating System: NO INFORMATION

Mating Season: March to June

Courtship: After initial chases, both male and female fly near ground and female pauses at bases of various trees as if searching for potential nest sites. Sometimes male perches near female and flutters wings. Female sometimes takes male to territorial boundaries where male interacts with neighboring male. It appears that females assess male quality by watching these interactions.

Territoriality: HOME RANGE

Mating: NO SIGHTING

Nest Placement: The female Black-and-white Warbler selects a well-hidden nesting location at the base of a tree, rock, stump, or fallen log, or under a bush or shrub. Nests are usually built on the ground but occasionally are placed in a cavity atop a tree stump, in a rock crevice, or on a mossy bank up to six feet high.

Nest Description: The round, open cup-shaped nest is constructed from dry leaves, bark strips, grass, and pine needles, reaching just over 5 inches in diameter and 5 inches high. The nest cup, which measures up to 3 inches in diameter and 2.5 inches high, is lined with moss, horsehair, and dried grasses.

Egg-Laying: Clutch Size: 4-6 eggs Number of Broods: 1-2 broods Egg Length: 0.6-0.8 in (1.5-1.9 cm) Egg Width: 0.5-0.6 in (1.3-1.4 cm) Incubation Period: 10-12 days Nestling Period: 8-12 days Egg Description: Creamy white, pale bluish- or greenish-white, with speckles of brown or lavender.

Hatching and Incubation/Gestation: Helpless, with pink skin and dark gray down.

Development: Young leave nest 8–12 d posthatching. When they leave, they cannot fly well; use wings to help scurry across the ground. As they gain the ability to fly, they tend to occupy low to mid-level branches, still in vicinity of the nest.

ALTRICIAL.

Parental Care: Both parents feed young and defend nest. Females observed performing “rodent run” distraction displays, in which the bird assumes a hunched posture and drags its tail. Both sexes monitor fledglings, which generally stay within 100 m of nest.

Lifespan: Up to 11.25 years.

Conservation:

Official Federal Status: Least Concern

Special Statuses in Individual States: NONE

Threats: Black-and-white Warblers are common, although populations declined by about 33% between 1966 and 2014, according to the North American Breeding Bird Survey. Partners in Flight estimates the global breeding population at 20 million, with 25% spending some part of the year in the U.S., 75% breeding in Canada, and 43% wintering in Mexico. They rate a 10 out of 20 on the Continental Concern Score and is not on the 2014 State of the Birds Watch List. In the past, Black-and-white Warblers have proven susceptible to persistent organic pesticides used to combat insects. Today, the main concern for this forest-interior species is fragmentation of forests into smaller and smaller parcels. Like many nocturnal migrants, Black-and-white Warblers are vulnerable to collisions with tall buildings and radio towers.

Conservation Efforts: ^^^^^^

Extra Facts:

1. The Black-and-white Warbler is the only member of the genus *Mniotilta*. The genus name means “moss-plucking,” a reference to its habit of probing bark and moss for insects.
2. Black-and-white Warblers have an extra-long hind claw and heavier legs than other wood-warblers, which help them hold onto and move around on bark.
3. As warblers go, Black-and-white Warblers are combative: they’ll attack and fight with other species that enter their territory, including Black-capped Chickadees, Red-breasted Nuthatches, and American Redstarts. This aggressive behavior extends to the wintering grounds, where they defend territories and when feeding in mixed flocks will drive other Black-and-white Warblers away.
4. The oldest known Black-and-white Warbler was 11 years, 3 months old—a female that was banded in North Carolina in the 1950s and recovered in Pennsylvania more than a decade later.

Notable Species: NONE