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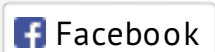
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## *Dendroica cerulea* cerulean warbler



By Matthew Dietz

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### Geographic Range

*Dendroica cerulea* breeds principally in the Mississippi and Ohio river valleys, west of the Appalachian Mountains. Its

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breeding area ranges from central Minnesota, northern Wisconsin, central Michigan, southern Ontario, northern New York, Connecticut, and Rhode Island south to Arkansas, Mississippi, Alabama, and North Carolina. Cerulean Warblers breed very locally in eastern North Dakota, eastern Nebraska, eastern Kansas, eastern Oklahoma, northeast Texas, northern Louisiana, western Massachusetts, northwest Vermont, southwest Quebec, and in the upper peninsula of Michigan. They are seriously declining in the heart of their range, but possibly expanding their breeding range in the north and northeast and onto the Piedmont plateau and Atlantic coastal plain. In winter, *D. cerulea* is found in northern South America from Colombia and Venezuela south to southern Peru and northern Bolivia. It winters in foothills and middle elevations on the west slope of the Andes Mountains in Colombia and, in greater numbers, on the east slope of the Andes from Venezuela south. Local sightings are reported in southeast Brazil, and very small numbers may winter in Panama and Costa Rica. Migration routes are wide-ranging, but mainly along the Mississippi River, across the Gulf of Mexico, and through Central America (Dunn and Garrett 1997; DeGraaf and Rappole 1995; Scott 1999).

**Biogeographic Regions:** nearctic ( native ) ; neotropical ( native )

## Habitat

Taxon Info 

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## Information

Pictures 

Classification

### Classification

Kingdom  
**Animalia**  
animals



Phylum  
**Chordata**  
chordates



Subphylum  
**Vertebrata**  
vertebrates



Class  
**Aves**  
birds



Order  
**Passeriformes**  
perching  
birds



Family  
**Parulidae**  
New World  
warblers

Cerulean Warblers are associated in the U.S. and Canada with large, old-growth tracts of deciduous floodplain forest, a habitat that has become extremely rare in the last century. Sensitivity to fragmentation in these areas, along with strict wintering-ground requirements of primary, humid evergreen forest along a narrow band in the Andes foothills, has put the species in jeopardy. Even though they are found breeding in tracts of only 10 ha, studies suggest that large, unfragmented forested areas may be required to support viable breeding populations. A Maryland study concluded that the maximum density of *D. cerulea* occurs in forests of at least 3000 ha. Researchers have found that Cerulean Warblers are restricted to one of the narrowest bands of elevational zones of any migrant or resident Andean bird and do not accept disturbed habitat (Robbins et al 1992; Oliarnyk 1996; Terborgh 1989).

⋮ **Terrestrial Biomes:** forest ; rainforest

## Physical Description

Cerulean Warblers, the smallest of the *Dendroica* (11.5 - 12 cm), are short-tailed and have two wide white wing bars in all plumages. Strongly sexually dimorphic, *D. cerulea*, however, shows little seasonal variation in plumage. Adult males are blue above and white below with dark back and side streaking and a dark breast band. Adult females have a greenish mantle, a pale yellow breast and throat, a bluish crown, and a pale super-



Genus  
*Dendroica*  
northern  
warblers



Species  
***Dendroica***  
***cerulea***  
cerulean  
warbler



cilium. Immature males resemble adult females but show dark streaks and more blue above. Immature females have no blue in their plumage. In the southern United States males weighed an average of 8.35 grams and females 8.04 grams and in the northern United States males weighed an average of 9.28 grams and females 8.83 grams. (Dunn and Garret 1997; Hamel 2000; Scott 1999).

Other Physical Features: endothermic ;  
bilateral symmetry

## Reproduction

The Cerulean Warbler breeds in wooded swamps, mesic uplands, and wet bottomlands. The female builds a nest from bark fibers, lichen, moss, and fine grasses in any of a variety of tall deciduous trees (at 5 to 30m) and far out on a limb. The breeding season begins mid-May to early June and usually ends in July. Four eggs (17 X 13 mm) are laid (range usually 3-5) in a single clutch. Eggs are smooth, slightly glossy, and vary from creamy-white to grayish-white to pale greenish-white. Speckles, spots, or blotches are reddish-brown, purplish-brown, or paler brownish-gray, often concentrated on the larger end. After an 11 to 13 day female incubation period, the nestlings hatch slightly downy and altricial. Nestling period has been shown to be between 10 and 11 days. Both parents feed the young and remove fecal sacs. Birds reach sexual maturity and breed when 1 year old. Cowbird parasitism has been observed at multiple breeding sites (Baicich 1997;

Robbins et al. 1992; Oliarnyk 1996).

Key Reproductive Features: iteroparous ;  
gonochoric/gonochoristic/dioecious (sexes  
separate) ; sexual ; oviparous

## Lifespan/Longevity

**Average lifespan**

**Status: wild**

59 months

[Bird Banding Laboratory](#) ➔

## Behavior

When flying, *D. cerulea* makes short, direct trips between trees. Male breeders are known to be very aggressive, attacking each other in the upper canopy and grappling with their feet and bills while falling with spread wings and tail. Males maintain territories by such agonistic behavior as well as by singing tirelessly. Territory size ranged from .38 ha to 2.4 ha in an Ontario study (mean = 1.04 ha), but Breeding Bird Censuses have shown that smaller territories are possible. It is assumed that pairs are monogamous, but information is scant. This warbler spends winters in large mixed-species flocks. The song is a short, rapid, accelerating series of buzzy notes ending in a high, prolonged buzz: *zeep zeep zeep zeepzizizizi zeeee* (Hamel 2000; Oliarnyk 1996; Robbins et al. 1992).

Key Behaviors: flies ; motile

## Communication and Perception

**Perception Channels:** visual ; tactile ;  
acoustic ; chemical

## Food Habits

Cerulean Warblers' primary foraging strategy is to glean insects from leaves in the upper canopy of deciduous trees (sometimes greater than 45m high), working from the proximal to the distal end of twigs. Less frequently, the birds will sally and hover-glean to capture insects. Analysis of stomach contents has shown the major food items to be Homoptera, Lepidoptera (primarily larval), Coleoptera and smaller amounts of Hymenoptera, Diptera, Hemiptera, Araneae, and other arthropods (Hamel 2000; Sample et al. 1993; Ehrlich et al 1988).

## Economic Importance for Humans: Positive

This species is surely important for the ecosystem services it provides, including insect control. It is of great interest to scientists as an indicator of overall ecosystem health of both eastern North American and tropical South American forests. Birders, interested in seeing this rare bird, provide tourist dollars to communities in which it occurs. Parks or wilderness areas created to protect the species' habitat would have residual economic benefits.

## Economic Importance for Humans: Negative

Unknown.



## Conservation Status

*Dendroica cerulea* is listed as Threatened in 2 states and is considered in need of some less restrictive protection in 13 states and 1 Canadian province. In Michigan, it is a species of special concern. It is not currently protected under the federal Endangered Species Act, but efforts are underway to petition for its listing.

As with most migratory birds, it is protected from hunting and harassment under the Migratory Bird Treaty Act of 1916. The species has shown the greatest decline of any species of warbler (3.4%/year) from 1966 to 1987. Recommendations have been made that the federal and state governments within its range protect large tracts of public land for habitat and restore second growth forests (Hamel 2000; Robbins et al. 1992).

**IUCN Red List** ➔

Vulnerable

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[information](#) ➔

**US Migratory Bird Act** ➔

Protected

**US Federal List** ➔

No special status

**CITES** ➔

No special status

**State of Michigan List** ➔

Special Concern

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