

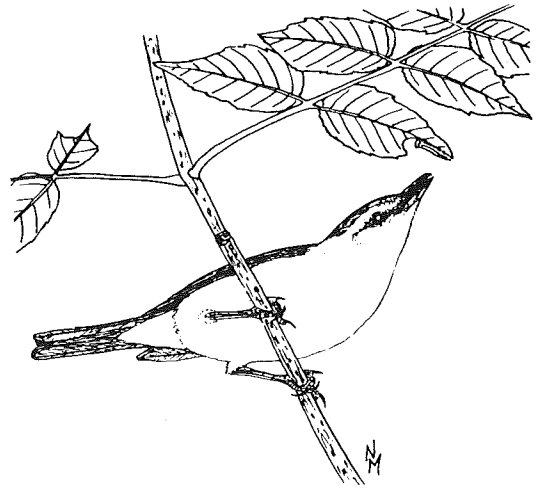
Philadelphia Vireo

Vireo philadelphicus

The Philadelphia Vireo breeds across much of southern Canada from British Columbia to Newfoundland, but its distribution in the U.S. is restricted. The species is known to breed in Maine and in the White and Adirondack mountains, but was only known to nest in Vermont from old reports (Davenport 1907). Atlas Project confirmation was first achieved in 1979. Observations made during that and subsequent years revealed that the Philadelphia Vireo could be locally common in preferred habitat in northern Vermont. For example, 14 birds were seen in the Cold Hollow Mountains, south of Montgomery Center, along less than a mile of logging road in an area that had been selectively cut 5 to 10 years before. Subsequent observations revealed that, though rare in the state, the Philadelphia was far more widely distributed and frequently encountered than observers had previously suspected.

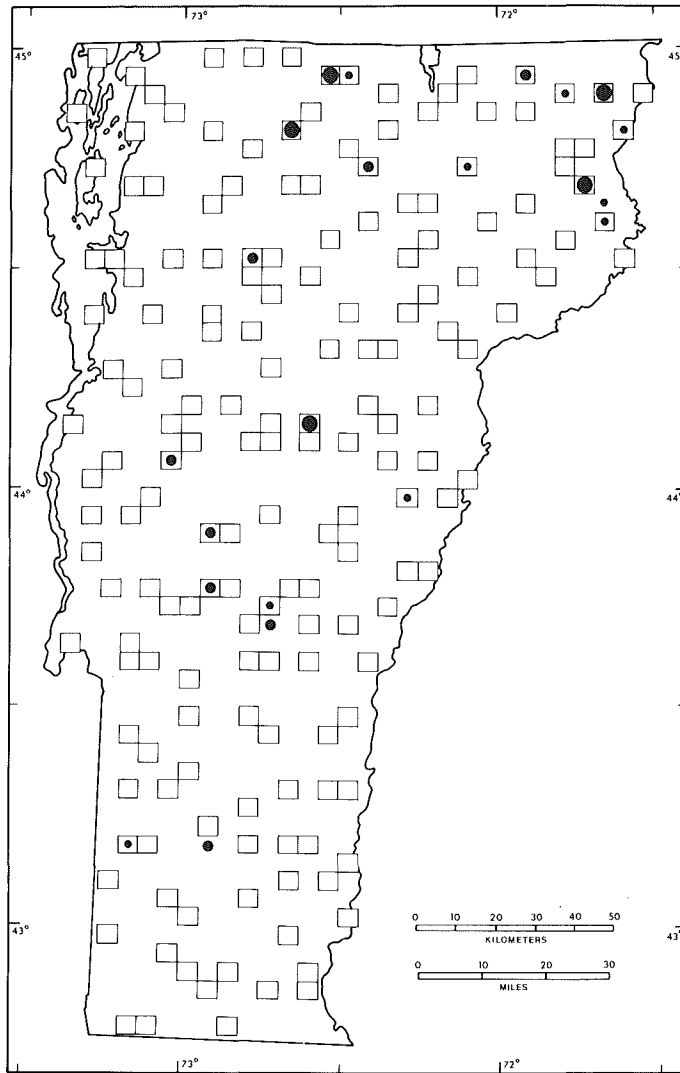
The Philadelphia Vireo is particularly interesting to ecologists because of its similarity to the Red-eyed Vireo. The two species overlap at the southern and northern limits of their respective ranges. In the area of sympatry they compete interspecifically for similar habitats (Rice 1978). In Vermont, Philadelphia and Red-eyed vireos have been found to respond strongly to tapes of each others' songs. Ethologists interpret various differences in their behavior and reproductive strategies as reproductive-isolating mechanisms (Barlow and Power 1970).

Although in Canada the Philadelphia Vireo inhabits aspen-birch forests, most Vermont records are from cutover hardwood forest; occasionally they are from open mixed woodlands. Rice (1978) found that Philadelphia Vireos in Canada occupied territories of 0.3 ha (0.8 a), nearly identical in size to territories used in the same habitat by Red-eyed Vireos. However, territories were for the most part mutually exclusive. Interspecific aggressive response to song



(Barlow and Power 1970; Rice 1978) helps to maintain territorial boundaries, but how females distinguish correct mates—a selective process often assumed to be a function of song—is not clear; mismatches are unknown. Philadelphia Vireos nest higher in the canopy than Red-eyeds, but Rice (1978) determined that no significant differences in foraging heights of the two species existed.

The Philadelphia Vireo arrives in Vermont in mid May. Like most other members of the genus, the Philadelphia Vireo builds its nest in the fork of a horizontal branch; the nest is 3–12 m (10–40 ft) above the ground. June 16 is the only date for nest construction in Vermont. From 3 to 5 (usually 4) brown-spotted, white eggs constitute a complete clutch. In marked contrast to the Red-eyed Vireo, the male Philadelphia assists in incubating the clutch. He may even sing while on the nest (Lewis 1921). Incubation lasts 13 to 14 days, and the nestling period is approximately equivalent. Young are fed a variety of insects captured by gleaning, hovering, and occasional hawking. Age to complete independence is unknown, but is probably similar to that of Red-eyed Vireos. Both Vermont fledgling dates are from late June. Rice (1978) found that Philadelphia Vireos experienced much less nest parasitism by Brown-headed Cowbirds than did Red-eyeds, but failed to identify behavioral traits that might account for the observed differences. In Vermont, Philadelphia Vireos oc-



No. of priority blocks in which recorded

TOTAL 19 (11%)

Possible breeding: 8 (42% of total)

Probable breeding: 6 (32% of total)

Confirmed breeding: 5 (26% of total)

Physiographic regions in which recorded

	no. of priority blocks	% of region's priority blocks	% of species' total priority blocks
Champlain Lowlands	0	0	0
Green Mountains	9	17	47
North Central	1	5	5
Northeast Highlands	6	38	32
East Central	2	10	11
Taconic Mountains	1	6	5
Eastern Foothills	0	0	0

cur in areas where cowbirds are relatively uncommon (D. P. Kibbe, pers. observ.); parasitism rates within the state are unknown.

Philadelphia Vireos are common but unobtrusive fall migrants. Most pass through Vermont in late August and early September, but stragglers may be found through September 28. The species winters from central Guatemala to Panama and Colombia.

The historic status of the Philadelphia Vireo in Vermont and current trends in the population are open to speculation. Perkins and Howe (1901) and Spear (1976) considered the Philadelphia Vireo an uncommon summer resident. Selective logging activity appears to create habitat suitable for Phila-

delphias. Most of the state's forests have been selectively cut in the past, but increasing tracts, particularly in the Northeast Highlands, are now being clear-cut. While clear-cutting is not as beneficial to Philadelphia Vireos as selective logging, the edge habitats created are probably better habitat for the species than unbroken forest. Additional studies of the dynamics of colonization by Philadelphia Vireo populations in cutover areas, and analyses of distribution records in subsequent years, are needed to enlighten our view of the status of these unobtrusive residents.

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