

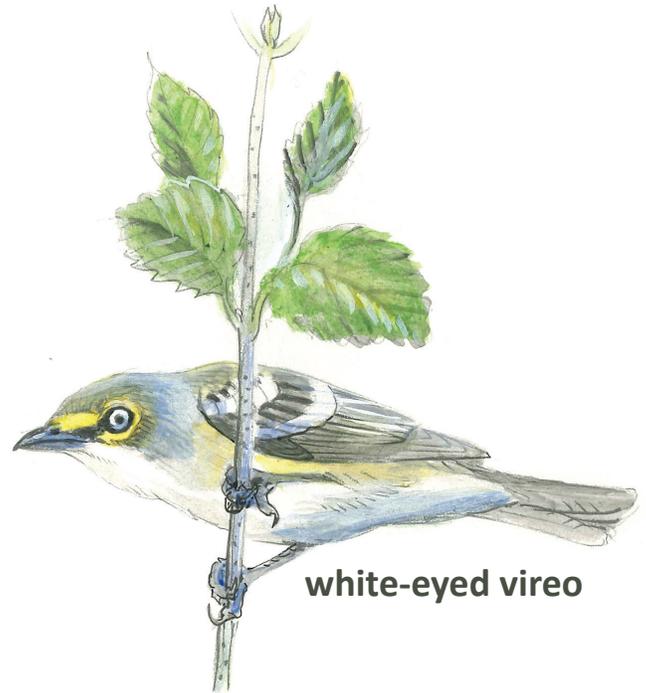


Vireos

The more than 50 species of vireos (family Vireonidae) live only in the New World. Medium size (about 5 to 6 inches long) and olive or gray in color, they keep mainly to the treetops and are heard—thanks to the males' incessant singing—more frequently than they are seen. Five species breed in Pennsylvania, including the red-eyed vireo, perhaps the most abundant bird of mature hardwood forests in the Northeast. Another species, the Philadelphia vireo, migrates through Pennsylvania. The word vireo comes from Latin and means “green bird.” Although superficially closer in appearance to wood-warblers, vireos are actually more closely related to shrikes and crows. Vireos typically are stockier and more slowly moving than wood-warblers, pausing for periods while they forage in trees. They all have a heavy, slightly hooked bill.

Vireos feed mainly in the upper and mid-level canopies of mature trees and understory shrubs. They glean insect prey while walking along or hopping among branches, hovering near leaf surfaces, making short flights, and inspecting furrows. Vireos also eat berries, especially in fall and winter. The best time to look (and to listen) for them is in early spring, after migratory birds have arrived and before the leaves come out fully. During breeding season males sing throughout the day, even during hot noon hours, and they keep on singing into late summer after most other birds have quieted. Their nests are delicately woven pouches that hang from a fork of a horizontal limb.

Vireos breed in May, June, and July. Males perform stylized posturings in front of prospective mates. They may spread their tails and fluff up their feathers while weaving their bodies from side to side or up and down; both males and females may flutter their wings. Pairs are thought to be monogamous. They nest among the foliage of trees and shrubs. The typical nest is a cup made out of plant matter held together by spider or caterpillar silk, hanging hammock-like in the fork between two twigs. In most species, the sexes share in building the nest. Vireos' eggs are white to creamy-colored, marked with brown or black spots. The usual clutch is three to five, with an average of four eggs. Both parents share in incubating the eggs and bringing food to the nestlings. In Pennsylvania, most vireos rear one brood per summer. Brown-headed cowbirds heavily parasitize many vireos, which may be contributing to recent population declines. Fragmented



white-eyed vireo

forests in the Northeast may give cowbirds better access to vireos' nests. Several vireo species also face problems on their wintering ranges in Central and South America, where thousands of acres of tropical forest have been logged. Vireos are preyed on by accipiter hawks.

White-eyed Vireo (*Vireo griseus*)

This smallish vireo sings *chick-oh-oerweeh-chick*. The sharp notes at the couplet's beginning and end are distinctive among vireos. The bird has yellowish eye-rings and white eyes. The species inhabits woods edges, overgrown pastures, brushy swamps, swales, glades, and alder tangles. White-eyed vireos feed actively in the branches and foliage of low dense cover, taking moths, butterflies, caterpillars, beetles, wasps, ants, bees, flies, and many other insects, as well as spiders and snails. As summer wanes and during migration, they eat fruits and berries.

White-eyed vireos nest throughout the eastern United States. Pennsylvania is at the northern limit of the breeding range, with most nesting reported from the state's southwestern and southeastern corners, including suburbs of Philadelphia and Pittsburgh. The nest, usually 2 to 6 feet above the ground, is slightly cone-shaped (distinguishing it from the more rounded and cup-like nest of the red-eyed vireo). The nest consists of small pieces of soft wood and bark held together with spider

webbing, with an inner lining of dry grass and fine stems. The eggs are incubated for about two weeks, and the young fledge nine days after hatching. In some areas, brown-headed cowbirds parasitize nearly half of all nests; in parasitized nests, vireo offspring usually do not survive. White-eyed vireos winter in the southern United States, Mexico, and Central America.

Yellow-throated Vireo (*Vireo flavifrons*)

This is the most colorful of Pennsylvania's vireos, with a bright yellow throat and breast. The male's song is a string of short, buzzy robin-like phrases given 20 to 35 times per minute. It is a slower song than that of the more widespread red-eyed vireo. Yellow-throated vireos inhabit the edges of mature deciduous forests, especially wet bottomland and tree-lined rivers and streams, as well as open wooded areas such as orchards, parks, and shady areas in towns where there are tall trees with broad crowns. The species avoids coniferous woods and the unbroken forest interior and has less nesting success in small forest blocks. Nonetheless, they are associated with the tree canopy. The bill, typical for vireos, is sturdy, slightly curved, and has a hook at the tip, useful for nabbing and tearing apart caterpillars, the single food item most prevalent in this species' diet. Yellow-throated vireos also feed on many other insects and sometimes fruits of multiflora rose, sassafras, wild grape, pokeberry, and other plants. The nest, a thick-walled cup made of strips of inner bark and grasses, is generally 20 to 40 feet up in a tree within the tree canopy. Cowbirds frequently parasitize this species. The yellow-throated vireo breeds throughout the eastern half of the United States and in southern Canada, and winters in Mexico, Central America, and South America.

Blue-headed Vireo (*Vireo solitarius*)

Formerly called the solitary vireo, the blue-headed vireo has a blue-gray head and white eye-rings. This is a particularly



blue-headed vireo

handsomely marked vireo with its distinctive white "spectacles." It is Pennsylvania's earliest spring vireo, arriving in April and early May. The song, a series of short whistled phrases, has been judged the most mellifluous of all vireos' calls. The song has pauses in it as if the vireo is thinking about its next phrase or "talking to himself." The species thrives in a wide range of forested settings, particularly in open woods where pines or hemlocks predominate. In Pennsylvania most blue-headed vireos nest at elevations above 1,300 feet with very few below 650 feet above sea level. The species breeds widely in northern Pennsylvania and is absent from the state's southeastern and southwestern corners. In summer blue-headed vireos feed almost exclusively on insects and spiders, foraging among the leaves, branches, and twigs in the mid-story of the forest. It is one of the state's nesting species that is most strongly associated with large forest blocks and the forest interior. Increases in population and range seem to be a rebound from the logging era when most of the state was deforested and its habitat greatly reduced. The state's forests have been maturing in the last few decades with many typical forest species responding to the increased availability of the native forested habitat. The nest is an open cup made of grasses, inner bark, and other plant materials. The outside of the nest is adorned with lichens or papery scraps from old hornets' nests. It is usually placed less than 10 feet high in a shrub, sapling, or conifer, hanging slightly from a horizontal limb or fork. They often are associated with hemlock trees especially along cold water streams in the mountains. The vireo pairs will relocate between nesting attempts.

Warbling Vireo (*Vireo gilvus*)

This drab grayish-olive bird has a whitish breast and a faint pale stripe above the eye. Roger Tory Peterson terms the song "a single languid warble unlike the broken phraseology of the other vireos." Males sing from late April until mid-September. Warbling vireos feed on many caterpillars, as well as insects ranging in size from aphids to dragonflies. In late summer they turn to berries and small fruits of dogwood, pokeberry, sumac, elderberry, and others. Warbling vireos breed across much of North America in open, mixed, or deciduous woods, fence-row and roadside trees, shade trees in open country, and woodlot



warbling vireo

edges. It is strongly associated with riparian woodlands in the nesting season. Nests are built in trees, higher above the ground than those of most other vireos: 20 to 90 feet up. Both sexes build the neat cup out of bark strips, leaves, grasses, feathers, and plant down. Male warbling vireos are such persistent singers that they even give voice while helping to incubate eggs. They sing later in summer than most songbirds; some vocalize as late as Labor Day weekend. In Pennsylvania, the population of warbling vireos seems to be concentrated in the state's four corners and along the major river systems, especially the Susquehanna River Valley.

Philadelphia Vireo (*Vireo philadelphicus*)

Its name notwithstanding, the Philadelphia vireo does not nest in the vicinity of Philadelphia or anywhere else in Pennsylvania. (The type, or first, specimen of this bird was collected in Philadelphia while in migration). Experienced birdwatchers may spot this uncommon migrant in May and again in September and October as it passes through the Keystone State, shifting between its northern breeding grounds in the boreal forests, primarily New England and southern Canada, and its wintering range in southern Central America.

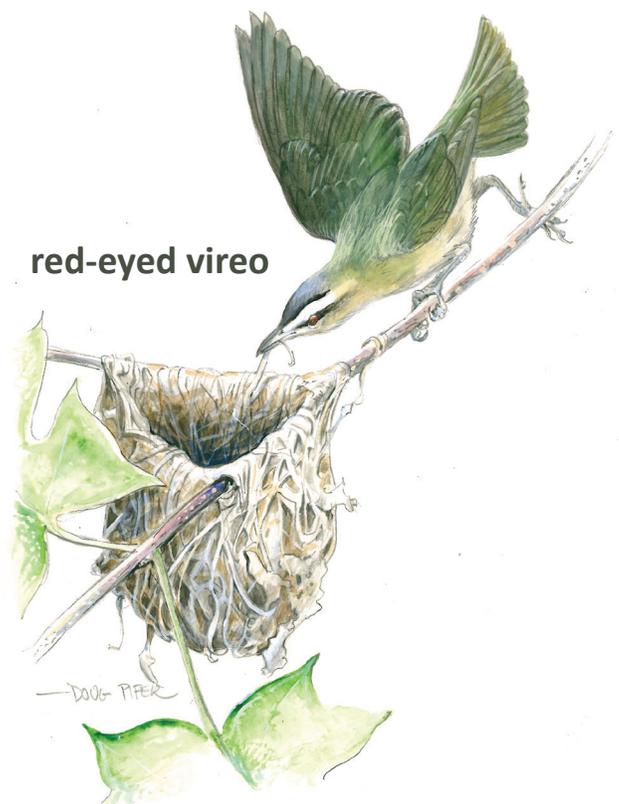
Red-eyed Vireo (*Vireo olivaceus*)

Although abundant and widespread in forested habitats throughout temperate North America, the red-eyed vireo is seen infrequently. Its greenish, leaf-matching coloration; counter-shading (the pale belly, when seen from below, blends with sun dappled foliage and sky); and treetop habits conspire to make this an unfamiliar bird to most Pennsylvanians. However, it is often heard because males sing incessantly during the nesting season long after other species have gone quiet. The species' song is a series of robin-like phrases (ornithologists have noted around forty of these locutions), often repeated for an hour or longer without cease. Red eyed vireos breed in every county in Pennsylvania. They use a variety of woods settings, including second growth forest, woodlots, mature deciduous or mixed woodlands, and shade trees in towns and cities. An ideal habitat is provided by an

extensive stand of mature moist forest with an understory of shrubs and smaller trees.

Red-eyed vireos forage high in the canopy. They glean insects from foliage and sometimes hover to pick insects from leaves and flowers. They eat caterpillars—gypsy moth, tent caterpillars, fall webworms, and many others—plus other insects including beetles, bugs, flies, walking sticks, cicadas, and treehoppers. They also feed on fruits of Virginia creeper, dogwood, sumac, and other plants. In spring, males establish territories of from one to two acres. Unlike Pennsylvania's other vireos, the male red-eyed vireo does not help the female build the nest, which is a deep cup 2 to 60 feet (on average, 5 to 10 feet) above the forest floor. Chipmunks and red squirrels may eat eggs and nestlings. Hal Harrison, author of *A Field Guide to Birds' Nests*, found one red-eyed vireo female incubating four cowbird and no vireo eggs in its nest (the cowbird apparently having punctured or pitched out the vireo's eggs).

In unparasitized nests, three to five young hatch after 11 to 14 days incubation. Both parents feed them. The juveniles leave the nest when 10 to 12 days old. Their parents feed them for another several weeks. The adults quit defending a home territory and lead the young to food. The species winters in South America, including the Amazon River basin, where individuals feed mainly on fruit. Despite deforestation of tropical forests on its non-breeding range and fragmenting of forests in the northeastern breeding range, the red-eyed vireo seems to have an increasing population trend globally as well as statewide, perhaps because it has such a large range and can adapt to different wooded habitats.



red-eyed vireo