

RED-EYED VIREO - VIREO OLIVACEUS

Taxonomy: Kingdom: Animalia Phylum: Chordata Class: Aves Order: Passeriformes Family: Vireonidae Genus: Vireo
Species: V. olivaceus

Habitat:

Biomes: Throughout their summer range, Red-eyed Vireos breed in deciduous and mixed forests with shrubby understories. Numbers are greatest away from forest edges and near small openings in the interior forest canopy. In the pine forests of the southeastern United States, they prefer stream and river edges supporting hardwood trees. In northern areas, breeding territories in alder thickets and aspen groves are common. Red-eyed Vireos can sometimes be found in residential areas, city parks, and cemeteries with enough large trees. During migrations, they use a larger variety of forest habitats. Still preferring broadleaf forests to conifers, they will make use of forest edges, citrus groves, city parks, suburban residential areas, and other areas with scattered trees. During fall migrations, they rest and feed in Gulf Coast pine forests with dense undergrowth. In their winter range in the Amazon basin, they inhabit a variety of habitats up to 10,000 feet elevation. Rainforest, mangroves, plantations, second-growth forests and forest edges, arid regions with adequate vegetation, and even gardens with scattered trees and shrubby clearings can serve as winter homes.

Distribution:

In US: The breeding habitat of the red-eyed vireo is in the open wooded areas across Canada and the eastern and northwestern United States. These birds migrate to South America, where they spend the winter. The Latin American population occur in virtually any wooded habitat in their range. Most of these are residents, but the populations breeding in the far southern part of this species' range (e.g. most of its range in Argentina, Uruguay, Paraguay and Bolivia) migrate north as far as Central America.

In Other Countries: This vireo is one of the more frequent American passerine vagrants to western Europe, with more than one hundred records, mainly in Ireland and Great Britain.

Holistic Description: A tireless songster, the Red-eyed Vireo is one of the most common summer residents of Eastern forests. These neat, olive-green and white songbirds have a crisp head pattern of gray, black, and white. Their brief but incessant songs—sometimes more than 20,000 per day by a single male—contribute to the characteristic sound of an Eastern forest in summer. When fall arrives, they head for the Amazon basin, fueled by a summer of plucking caterpillars from leaves in the treetops.

Species Richness: 2 SUBSPECIES

Population Dynamic: CHECK THREATS

Evolution and Systematics:

Evolution: Bones recovered from Meyer Cave fissure in Monroe County, Illinois, but churning of deposits by burrowing animals renders dating problematic.

Systematics: Body size may vary clinically from east to west, with small individuals breeding near the Atlantic coast and larger ones breeding in the Rocky Mountains, although geographic patterns of variation are complex, with the longest mean wing chord in Massachusetts, largest mean bill length in Tennessee, and longest mean tail length in Montana. Birds that breed in the Great Basin are paler and less heavily marked than are birds that breed farther east.

Number of Species: 2 SUBSPECIES

Number of Genera: 2 SUBSPECIES

Physical Characteristics:

Size and Length: Length: 4.7-5.1 in (12-13 cm) Weight: 0.4-0.9 oz (12-26 g)

Wingspan: 9.1-9.8 in (23-25 cm)

Coloration: Red-eyed Vireos are olive-green above and clean white below with a strong head pattern: a gray crown and white eyebrow stripe bordered above and below by blackish lines. The flanks and under the tail have a green-yellow wash. Adults have red eyes that appear dark from a distance; immature have dark eyes.

General Body Features: Red-eyed Vireos are large, chunky vireos with a long, angular head, thick neck, and a strong, long bill with a small but noticeable hook at the tip. The body is stocky and the tail fairly short.

Special Features of the Body: NONE

Special Features of the Head and Sensory Organs: These birds have short, slender, tweezer-like beaks that enable them to grab insects out of the air, pick insects and spiders off leaves, or probe between the crevices of tree bark to find their multi-legged meals.

Dentition: BEAK/LAMELLAE/GIZZARD

Special Features of the Limbs and Digits: Songbirds have very little feeling in their feet because their feet have few nerves and blood vessels. This adaptation allows songbirds to land on cold perches such as wires when the weather is frosty.

Any Special Internal Anatomy: When perching birds sit, a tendon on the backside of the ankle automatically flexes locking their toes around the branch. With feet locked, sleeping birds don't fall. As the bird stands up its feet release

Sexual Dimorphisms: Sexes alike in appearance, but male averages larger and heavier than female.

Differences Between Juvenile Stage and Adult: Crown is gray-brown or grayish olive, with faint dusky lateral edges.

Supercilium is dull whitish, with olive wash at rear. Eye line is dusky. Remaining upperparts grayish olive. Remiges and rectrices narrower, more tapered at tip, and brownish olive. Chin, throat, breast, and belly white, with sides, flanks, and undertail coverts pale yellow.

Behavior:

Diurnal, Nocturnal, or Crepuscular: Diurnal

Activity: Breeding males sing incessantly from before sunrise until well into the afternoon, usually from treetops around the periphery of their territories. Challenges provoke posturing, chasing, pecking, grappling, and displacing rivals from perches. Females and males indicate threats by raising crown feathers, fanning tails, and opening the bill while pecking and calling. Males also threaten by tilting their bodies forward and thrusting their heads out. The female aggressively defends the nest. She and the male will swoop, snap, and peck at intruding jays, crows, squirrels, and chipmunks. Both chase, scold, and strike intruding cowbirds with their wings. But once cowbird eggs are in the nest they are generally tolerated, though the vireo parents sometimes cover the intruder's eggs with additional nesting material. Red-eyed Vireos hop along and flit between branches when foraging. They glean most of their invertebrate food from the underside of leaves. Pairs are seasonally monogamous. The female builds the nest, incubates the eggs, and broods the young. The male offers nest materials and feeds the female, especially during incubation. The female begs for food away from the nest, quivering her wings, opening and closing her mouth, and calling, much like a begging chick. She solicits copulation by calling and crouching with wings quivering and tail spread and lowered. Both mates vibrate wings and twitter during copulation. Both may join large mixed flocks during migrations and on wintering grounds.

Locomotion: Hops both when moving on ground and among branches. In Maryland, 57% of movements during foraging were hops, while remaining 43% were flights.

Communication and Perception: Song a broken series of slurred notes. Each phrase usually ends in either a downslur or an upswing, as if the bird asks a question, then answers it, over and over. A loud, catbird-like myaah call punctuates many social interactions. Both sexes use it to emphasize warning displays toward potential predators or interlopers. Females incubating eggs may use the same call to attract the male, as well as a tchet, tchet, tchet call to solicit food from him. Males use a second tsherrrr call during fights and territorial displays.

Home Range: Not known to be territorial during overwintering period. During breeding period, male defends territory against other males. Mean territory size in a Michigan aspen forest reported as 0.69 ha. Male establishes and maintains territory by singing from treetops around territory periphery. Intruding males met with threat postures, supplanting, chases, pecking, and grappling. One male ceased singing 9 d after young left nest, suggesting end of territorial behavior.

Degree of Sociality: During migration, Red-eyed Vireo occurs in flocks with conspecifics, as well as other species. In fall, flocks may be large, up to 30 vireos observed in a single group. Reported to join both conspecific and mixed flocks on the overwintering grounds.

Level of Aggression: Territorial disputes between males commonly involve chasing and supplanting attacks, but combatants may use feet and bill to peck or grapple while beating opponent with wings. Chases last from few seconds up to 15 min and are punctuated with interludes of supplanting. Such chases can involve up to 4 individuals, but females rarely participate. Supplanting most frequently occurs early in breeding season and mostly involves males, but Red-eyed Vireo occasionally supplants a mate. Pecking during interactions is directed at opponent's head and preceded by supplanting and followed by chasing.

Migration: Long-distance migrant. Red-eyed Vireos leave the U.S. and Canada each fall to spend winters in the Amazon basin of South America. Western populations typically swing east before joining common flight paths south.

Predators:

Predators: Crows, Sharp-shinned Hawk, Blue Jay, Common Grackle, Eastern Chipmunk, Red Squirrel, Pileated Woodpecker, Porcupine, Cedar Waxwings.

Anti-Predator Defenses: When a jay or crow is in Red-eyed Vireo's territory, vireo will follow it silently. Presence of crows also causes incubating female vireo to crouch lower on nest. If predator approaches vireo nest, both male and female alternately swoop at intruder while snapping their bills and giving Myaah Call. While scolding predator, Red-eyed Vireo uses

Crest-erect Alert and Tail-fanning Display. Reported to swoop at and peck squirrels and chipmunks that are preying on their eggs.

Diet and Nutrition:

Adult Diet: Red-eyed Vireos eat invertebrates as well as seeds and fruits. Their diet changes substantially throughout the year: it's mostly insects during summer, especially caterpillars which can account for 50 percent of their summer diet. Caterpillars make up only 15 percent of their spring diet, and 20 percent in fall. They also eat butterflies and moths, beetles, mosquitoes, flies, bugs, cicadas, wasps, ants, bees, and sawflies, to (less frequently) grasshoppers, crickets, dragonflies, and damselflies. They'll also eat spiders and small snails. Smaller prey are eaten whole. Caterpillars and other larger meals are trapped under a foot and plucked apart into bite-sized bits. Among plant foods, small wild fruits like blackberries, elderberries, spicebush, Virginia creeper, sassafras, dogwood, arrowwood, and bayberry outnumber the occasional flowers, leaf buds, and magnolia seeds. As fall migration approaches, the amount of fruit in their diet rises. During migration they eat both insects and fruit, but are almost entirely fruit-eaters on their overwintering grounds in South America.

Juvenile Diet: ^^^^^

Special Adaptations for Getting Prey: Searches small areas for arthropod prey while hopping along branches, then makes short flight to new area. Larger prey usually killed by crushing or beating against branch. Small items swallowed whole, but larger items (including caterpillars) held down with one foot and eaten piecemeal.

Reproduction:

Mode of Reproduction: Monogamous

Mating System: Monogamous. Of 680 individuals killed in collisions with towers during nocturnal fall migration in North Carolina, 56% were male, 44% female.

Mating Season: May to August - SUMMER

Courtship: No male courtship displays reported. Upon arrival into male's territory, female often chased and even pinned to ground by male. Common for one member of a pair to peck the other during courtship; either sex may be the aggressor. Displacement preening also commonly performed by either sex during courtship. When male carrying food approaches female on nest, female extends wings slightly and vibrates them while giving soft twittering call. This display identical to feeding solicitation of young and also occurs during spring migration.

Territoriality: HOME RANGE

Mating: Copulations occur before nest-building, but peak after nest completion and during egg-laying. To solicit copulation, female vibrates wings, crouches, lowers and spreads tail, and gives Quot-quot-quot Call. Immediately before copulation, female raises tail. Both birds vibrate wings and give rapid twittering calls during copulation.

Nest Placement: The female chooses a fork in a branch of a midstory to understory tree or shrub. The fork is typically shaded, concealed from above by vegetation, and far enough from the trunk to provide an unobstructed 360 degree view. Most nests are in deciduous trees, at an average height of 10 to 15 feet.

Nest Description: The female spends 4 to 5 days constructing a nest of bark strips, grasses, pine needles, wasp-nest paper, twigs, and plant fibers that hangs below the branch. She glues the materials (some of which are provided by the male) together and to the branch fork with spider-web adhesive, occasionally supplemented with spider egg cases and sticky plant fibers. The open cup is usually just over 2 inches across and an inch and a half deep, surrounded by half-inch walls and supported by an inch-thick floor.

Egg-Laying: Clutch Size: 1-5 eggs Number of Broods: 1-2 broods Egg Length: 0.8-0.9 in (2-2.4 cm) Egg Width: 0.5-0.9 in (1.2-2.4 cm) Incubation Period: 11-15 days Nestling Period: 10-12 days Egg Description: Dull white with sparse, sepia speckling.

Hatching and Incubation/Gestation: Born helpless, with eyes closed and sparse down on the pinkish orange skin of their heads, backs, and wings.

Development: Altricial; eyes closed. Skin of newly hatched nestling pinkish orange, darker on dorsal surface and transparent across abdomen. Mass at hatching 1.5–1.8 g.

Parental Care: Only female known to brood young. Both sexes feed young, but female more than male. Additionally, male may pass food to brooding female, who in turn feeds young. Female feeds young after they leave nest, but male contribution at this time uncertain.

Lifespan: Up to 10 years.

Conservation:

Official Federal Status: Least Concern

Special Statuses in Individual States: NONE

Threats: Red-eyed Vireos are numerous and despite some local declines, overall populations increased slowly but steadily between 1966 and 2014, according to the North American Breeding Bird Survey. Declines were most notable in the Western United States, where numbers fell by 76% percent during that same period. Partners in Flight estimates the global breeding population at 180 million, with 48% breeding in Canada, and 27% breeding and migrating through the U.S. The species rates a 5 out of 20 on the Continental Concern Score. Red-eyed Vireo is not on the 2014 State of the Birds Watch List. These birds are sensitive to disturbances such as clearcut logging, stripmining, and forest fragmentation. Logging practices that leave smaller canopy openings are less disruptive. Red-eyed Vireos are among the most common hosts to Brown-headed Cowbird eggs. Nest parasitism is more frequent near forest edges. Local populations show growth during the breeding season after large caterpillar outbreaks. Like many nocturnal migrants, Red-eyed Vireos are killed in collisions with buildings and other tall structures, sometimes in large numbers.

Conservation Efforts: ^^^^

Extra Facts:

1. The red iris that gives the Red-eyed Vireo its name doesn't develop until the end of the birds' first winter. Then the brown iris the birds were born with becomes dull brick red to bright crimson in different individuals.
2. Some find the Red-eyed Vireo's song unending and monotonous. Bradford Torrey wrote in 1889, "I have always thought that whoever dubbed this vireo the 'preacher' could have had no very exalted opinion of the clergy." But each male sings 30 or more different songs, and neighbors have unique repertoires. Over 12,500 different Red-eyed Vireo song types have been recorded.
3. On May 27, 1952, Louise de Kiriline Lawrence counted the number of songs sung by a single Red-eyed Vireo seeking a mate on his territory 180 miles north of Toronto. He sang 22,197 songs in the 14 hours from just before dawn to evening, singing for 10 of those hours.
4. From the 1920s to the 1940s Red-eyed Vireos expanded west into Utah and Oregon and northeast into Newfoundland. The most likely cause is new shelterbelts and landscaping, particularly where eastern tree species were planted. Since the 1970s, however, numbers in the Big Basin region of the West seem to have fallen steadily.
5. Several subspecies of Red-eyed Vireos remain resident in South America or migrate only within that continent.
6. The Red-eyed Vireo's magnetic compass guides migration between continents. But fat stores seem to influence migration paths when the birds encounter the Gulf of Mexico. Fatter birds head across the Gulf, while leaner birds hug the coastline or travel inland around the Gulf. Cloud cover also makes routes near land more likely.
7. The oldest known Red-eyed Vireo was at least 10 years, 2 months old when it was recaptured and rereleased during banding operation in Maryland.

Notable Species:

1. V. o. Olivaceus - Breeds from west-central British Columbia and southern Mackenzie east across southern Canada to Newfoundland and south, chiefly east of the Rocky Mountains, from Montana to eastern Texas east to northern Florida.
2. V. o. Caniviridis - . Breeds in the Great Basin in (at least) Washington, Oregon, and Idaho.