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Birds of the Great Plains (Revised Edition, 2009)  
by Paul Johnsgard

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## Birds of the Great Plains: Family Vireonidae (Vireos)

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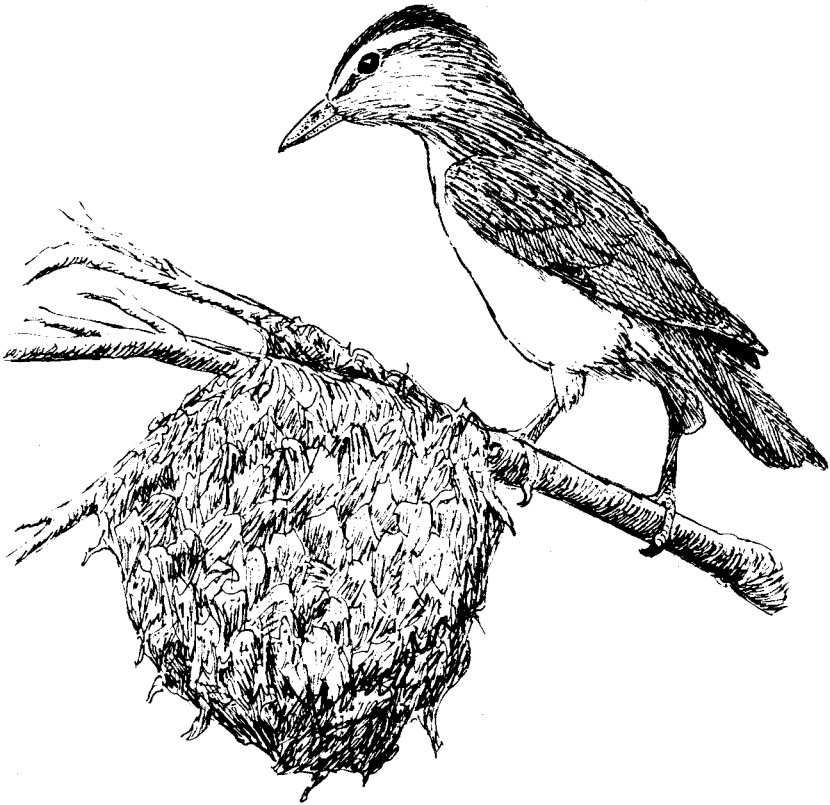
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FAMILY VIREONIDAE  
(VIREOS)



Red-eyed Vireo

## Black-capped Vireo *Vireo atricapilla*

**Breeding Status:** Currently limited as a breeder to central Oklahoma (mainly Caddo, Blaine, and Dewey counties, less often seen in Cleveland, Major, and Comanche counties). Previously the range extended appreciably farther north into central Kansas and it was also sighted rarely in southeastern Nebraska, but it apparently is now extirpated from Kansas.

**Breeding Habitat:** Scrubby and clumped tree growth such as is found in prairie ravines, hilltops, or slopes, or overgrazed grasslands seems to represent this species' primary habitat. In Oklahoma it uses clumps of oaks, junipers, and similar trees in rather sloping topography, but not streamside or bottomland thickets. Thus it avoids contact with both the Bell and white-eyed vireos.

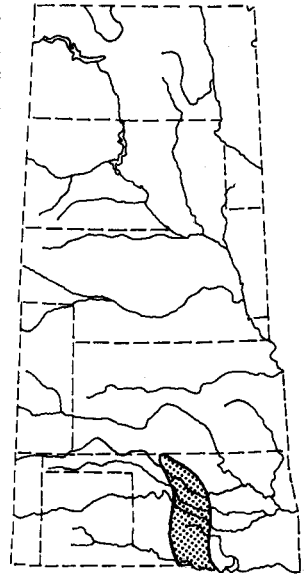
**Nest Location:** Nests are in rather small trees, often scrubby oaks (51 of 70 Oklahoma nests were in black-jack oaks and averaged only about 3 feet above ground). Nearly all are above sloping ground, and they often are near the base of a cliff or steep bank. The nest is typically vireolike, a deep and suspended cuplike structure.

**Clutch Size and Incubation Period:** From 3 to 5 white eggs, usually 4. The incubation period is 14-17 days. Sometimes double-brooded.

**Time of Nesting:** The nesting season in Oklahoma extends from late April (uncompleted nest seen April 26) to late July (eggs July 23, nestlings as late as August 2).

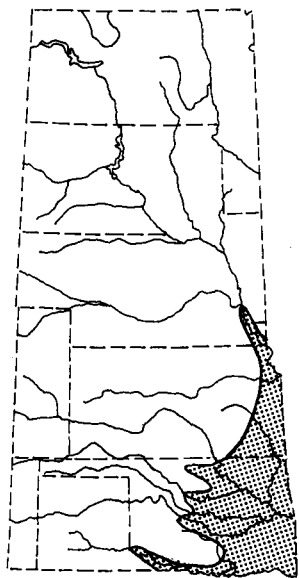
**Breeding Biology:** Males arrive in breeding areas about a week before females and immediately establish territories. As soon as the females arrive they form pair bonds, apparently choosing the male and territory as a unit. Remating with males of the previous year is known, and one pair probably remated three years. The pair looks for nest sites together, and unmated males sometimes even begin nests, but most building is done by the female. Nests usually take 4-5 days to complete, and incubation begins with the laying of the second or third egg. Both sexes incubate, although the male lacks a brood patch. Although the young may leave the nest as early as 10 days after hatching, they usually leave at 11-12 days. Fledglings are cared for 4-7 days, after which the female may begin a second nesting. She may either remate with a second male, leaving her first mate to care for the original brood, or undertake the incubation and brooding of the second brood alone.

**Suggested Reading:** Graber 1961; Bent 1950.



## White-eyed Vireo

### *Vireo griseus*



**Breeding Status:** Breeding occurs in the Missouri Valley as far north as Saryp County, Nebraska, and extends southward through eastern Kansas (specific nesting records limited to Doniphan County and Kansas City region) and the eastern half of Oklahoma (principally in the eastern third, but reported west to Alfalfa, Payne, Oklahoma, Caddo, and Love counties).

**Breeding Habitat:** This species is associated with the dense under-story of bottomland woodlands and favors thickets near water. It does not extend out into prairie areas along small streams like the Bell vireo, nor does it occur in scattered hillside tree clumps like the black-capped vireo.

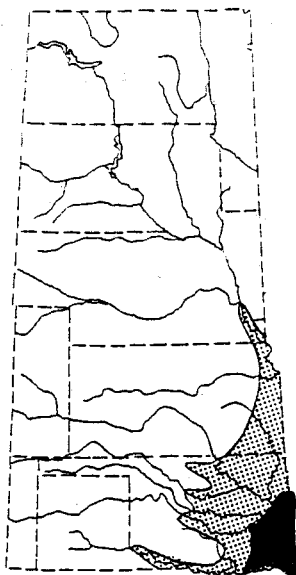
**Nest Location:** Nests are in shrubs or low trees, up to 8 feet above the ground, but averaging only about 3 feet. Like other vireo nests, they are suspended from horizontal forks and are held together with cobwebs. They are less cuplike than those of the red-eyed or black-capped vireo, and are more conelike in shape.

**Clutch Size and Incubation Period:** From 3 to 5 eggs, usually 4. The eggs are white with a few scattered blackish spots. The incubation period is 14–15 days. Single-brooded.

**Time of Nesting:** Oklahoma breeding dates from mid-April (several nests April 13–17) to July 1 (1 vireo egg and 2 cowbird eggs in nest). Texas egg records are from April to July 4.

**Breeding Biology:** Although few detailed observations on this species are available, it is apparently much like the other vireos in its breeding biology. It is known that the male participates fully in the nesting, sharing both nest-building and incubation with his mate. He also defends the nest fearlessly, judging from an early account by A. A. Saunders, who stated that he sometimes had to lift one male off the nest by the bill in order to examine the eggs.

**Suggested Reading:** Bent 1950.



## Bell Vireo

### *Vireo bellii*

**Breeding Status:** Breeds from the Missouri Valley of south-central North Dakota (rarely) southward through central South Dakota (west rarely to the Black Hills and east to the Big Sioux River), Nebraska (west to Dawes County and the Colorado border), western Iowa and northwestern Missouri, eastern Colorado

(probably at least Logan and Yuma counties), all of Kansas, Oklahoma except for the western panhandle and southeastern areas, and the eastern panhandle of Texas, possibly extending rarely or locally to the New Mexico border.

**Breeding Habitat:** This vireo is generally associated with thickets near streams or rivers and with second-growth scrub, forest edges, and brush patches.

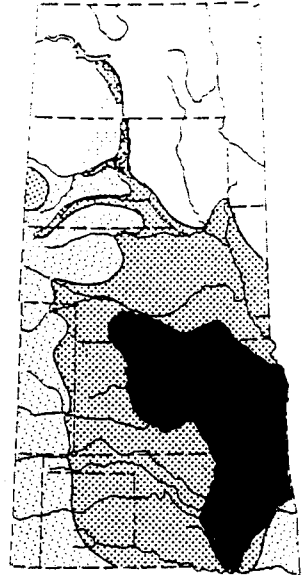
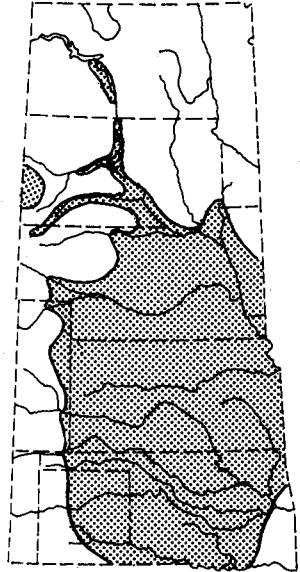
**Nest Location:** Nests are usually less than 5 feet high, in various shrubs or trees, typically suspended in terminal or lateral forks of small tree branches or in the periphery of shrub thickets. When nests are built in low shrubs, the site is always overhung with the foliage of a much taller shrub or a tree. They are constructed of a variety of plant materials, supplemented on the outside with silk from spider webs and cocoons and lined with fine grasses.

**Clutch Size and Incubation Period:** From 3 to 6 eggs (33 Kansas clutches averaged 3.4), white with scattered blackish spots. The incubation period is 14 days. Sometimes double-brooded and a persistent re-nester; frequently parasitized by cowbirds.

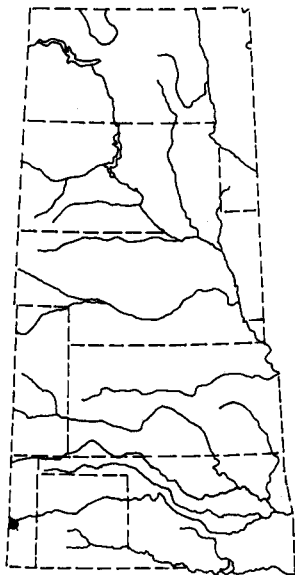
**Time of Breeding:** Kansas egg records extend from May 1 to July 20, with a major peak in the last part of May and a second smaller peak in mid-June, reflecting re-nesting efforts. Oklahoma egg dates are from May 4 to July 23.

**Breeding Biology:** On the basis of a Kansas study, it seems that male Bell vireos become territorial shortly after they arrive in spring, and they establish territories averaging about an acre. They rather quickly attract females, which they initially attack, then recognize as females by their submissive behavior. Nest-building is an important component of courtship in this species; the female probably selects the site, but the male constructs the initial suspension stages, interspersing the work with intensive courting behavior. About 4-5 days are spent in constructing the nest, and the first egg is laid a day or two later. The two sexes share incubation, although only the female has a brood patch and she does all the night time incubation. Brooding is likewise done by both sexes, and both sexes bring in food, although the female seems to take the major responsibility for this. The young birds remain in the nest 9-12 days, but feeding of fledglings has been reported as long as 35 days after fledging. At least in Kansas, double-brooding is frequent, and in four cases of pairs that succeeded in their first nesting all began nesting within a day or two after fledging their first brood.

**Suggested Reading:** Barlow 1962; Nolan 1960.



## Gray Vireo *Vireo vicinior*



**Breeding Status:** Very rare or accidental breeder; with a breeding pair observed in Cimarron County, Oklahoma, in 1937 and a breeding colony found near Montoya, Quay County, New Mexico, in 1903. The species has also been collected during May in Prowers County, southeastern Colorado.

**Breeding Habitat:** The species is associated with wooded foothills and canyons, or dry chaparral, in the southwestern states. Dry chaparral, forming a continuous zone of twigs 1-5 feet above the ground, is the most favored habitat.

**Nest Location:** Nests are built in dense or thorny bushes or trees, usually 4-6 feet above the ground. Like other vireo nests they are built in forks, but often the fork is nearly upright rather than horizontal, and the nest lacks a lichen covering and instead may be decorated with sagebrush leaves.

**Clutch Size and Incubation Period:** From 3 to 5 eggs, white with sparse dark spotting near the larger end. The incubation period is unreported. Probably double-brooded.

**Time of Breeding:** In Oklahoma, nest-building was observed in late May, and two active nests were found in mid-June in northeastern New Mexico.

**Breeding Biology:** Unlike most other vireos, which tend to be adapted to arboreal foraging on foliage, this species is a dry-slope forager and thus extends well out into nonforested regions. Little has been written on the prenesting behavior of the gray vireo, and the relative roles of the sexes in nest-building, incubation, and brooding have not been established. It is likely that this species often raises two broods, since fully fledged young were found in Arizona on the same day that a pair was seen starting to build a nest, and the female was judged to have previously been brooding. In another case some newly fledged young were found under the care of a male parent, also suggesting that the female may have been occupied with a second nesting.

**Suggested Reading:** Johnson 1972; Bent 1950.

## Yellow-throated Vireo *Vireo flavifrons*

**Breeding Status:** Breeds from the eastern half of North Dakota (west to the Souris and Missouri rivers) and western Minnesota

southward through eastern South Dakota, western Iowa, eastern Nebraska (west locally to Brown, Garfield, and Hall counties), northwestern Missouri, eastern Kansas (west to Shawnee and Woodson counties), and eastern Oklahoma (west probably to Tulsa and Cleveland counties).

**Breeding Habitat:** This bird is associated with mature, moist deciduous forest, especially river-bottom forest or north-facing slopes; it is less frequently found in wooded residential areas. This species occupies a broader habitat range than red-eyed and warbling vireos and overlaps with both, but it favors more open woodlands than the red-eyed vireo and forages in the interior of trees, whereas warbling vireos forage on their periphery.

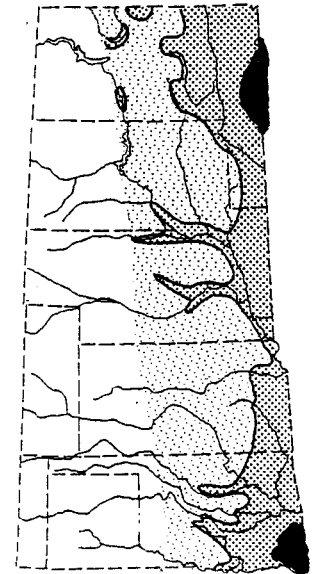
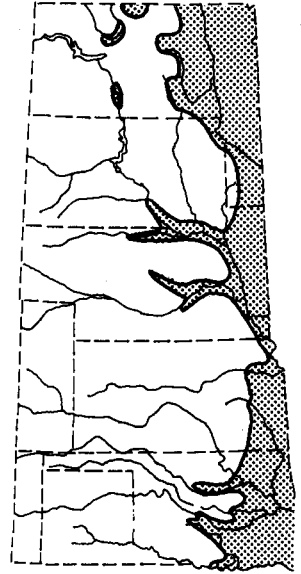
**Nest Location:** The nest is well above the ground (3–60 feet, usually above 30 feet), near the trunk of a deciduous tree, in the horizontal fork of a slender branch. It is suspended and typically vireo-like, with spider silk and attached lichens and mosses, and has a deep, slightly incurved nest cup lined with fine grasses.

**Clutch Size and Incubation Period:** From 3 to 5 eggs, usually 4. The eggs are white, with brown spots around the larger end. The incubation period is 14 days. Probably double-brooded.

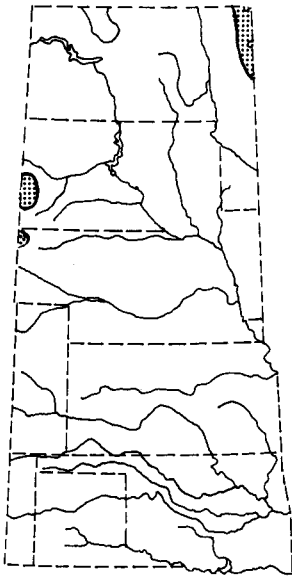
**Time of Breeding:** In North Dakota, active nests have been seen in June and early July, and dependent young as late as August 4. Oklahoma breeding dates extend from April 25 (nest ready for eggs) to July 22 (fledged young).

**Breeding Biology:** Studies on this species in Michigan suggest that males tend to establish territories in either of two general sites—either high in tall trees, totally above the ground, or low and including much ground area, with the two types so well separated that at times the territories of adjacent pairs overlap. Both sexes help gather nesting material, though the female does most of the actual building. About a week is required to complete the nest. Like other vireos, the male participates in incubation, frequently singing even while on the nest. He also brings food to the female while she is incubating. Both sexes feed the young, which fledge in about 15 days. Apparently the young birds remain together as a brood until they leave the area in the fall, but opinions differ on the frequency with which this species raises second broods.

**Suggested Reading:** Sutton 1949; James 1973.



## Solitary Vireo *Vireo solitarius*



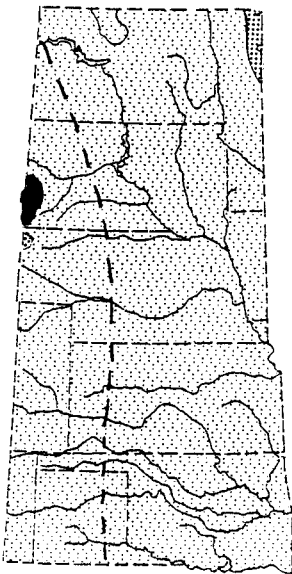
**Breeding Status:** A common breeder in the Black Hills of South Dakota, locally in Sioux County of extreme northwestern Nebraska, and in the wooded portions of north-central Minnesota (breeding records for Becker and Clearwater counties).

**Breeding Habitat:** In the Black Hills this species is found in pine forests and occasionally in mixed pine and aspen forests. In Minnesota it is also associated with conifers, especially spruce and tamarack swamps. More generally, it seems to prefer open mixed forests with considerable undergrowth.

**Nest Location:** Nests are usually 5-10 feet above the ground, rarely as high as 20 feet, in conifers or less frequently in hardwoods. Like those of other vireos, the nest is suspended in a horizontal fork and is generally basketlike. It is highly variable in materials but is often externally "decorated" with bits of lichen or "paper" from wasp nests.

**Clutch Size and Incubation Period:** From 3 to 5 eggs, usually 4. The eggs are white with scattered blackish spots. The incubation period is uncertain, but probably is 13-14 days. Probably single-brooded in our area, but possibly double-brooded farther south.

**Time of Breeding:** In the Black Hills, this species breeds from late May through July, with nestlings seen as early as June 16 and as late as July 2. In Minnesota, eggs have been found as early as May 25 and as late as July 7, and nestlings have been seen as late as July 17.



**Breeding Biology:** The territories of this species seem rather diffuse; the resident male frequently wanders about and does not confine his singing to a particular tree, and territories often overlap with those of red-eyed vireos. Both sexes are said to assist with nest-building; the male primarily brings materials to the female, and she shapes the nest. Both sexes also share in incubation, but the female probably does most. As in other vireos, the male sometimes sings while on the nest. The male continues singing until the young are 5-6 days old, then stops until the young have been out of the nest for about a week, when he may begin again, presumably signaling the start of another nesting cycle.

**Suggested Reading:** Barclay 1977; James 1973.



**Red-eyed Vireo**  
*Vireo olivaceus*

**Breeding Status:** Breeds in suitable habitats throughout Minnesota, North Dakota, South Dakota, western Iowa, Nebraska (west at least to Dawes, Thomas, and Deuel counties), eastern Kansas (west rarely to Decatur, Trego, and Morton counties), and eastern Oklahoma (west to Woods, Ellis, and Tillman counties; probably occurs in Cimarron County but no breeding record). There is a single state record of a territorial male collected in Union County, New Mexico (*Condor* 68:213).

**Breeding Habitat:** The species is associated with deciduous forests, especially those with semiopen canopies. It is found in both upland and river-bottom forests and sometimes also in older tree-claims.

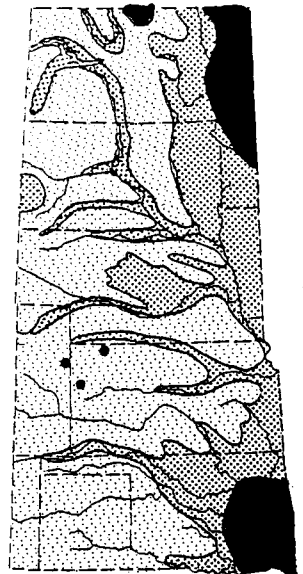
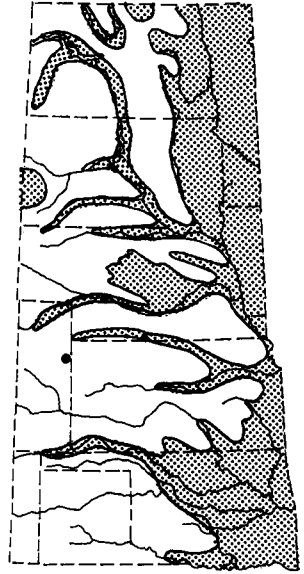
**Nest Location:** Nests are usually 10–40 feet above the ground in large trees, in horizontal forks of small branches. Like other vireo nests they are suspended structures, with deep cups lined inside with fine grasses and covered outside with spider webs, wasp-nest “paper,” and lichens.

**Clutch Size and Incubation Period:** From 3 to 5 eggs (5 Kansas clutches averaged 4.0). The eggs are white, with scattered blackish spots near the larger end. The incubation period is 12–14 days. Apparently single-brooded in our region; double-brooding is said to be occasional in eastern states.

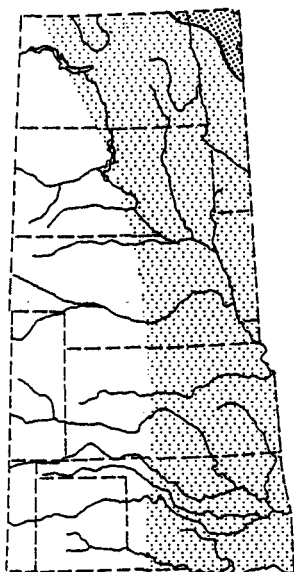
**Time of Breeding:** In North Dakota, egg dates are from June 10 to June 18, and dependent fledglings have been seen from August 4 to August 27. Kansas egg dates are from May 21 to July 31, with a peak in the first week in June. Oklahoma egg dates range from May 18 to June 25, and nestlings have been seen as late as August 6.

**Breeding Biology:** Studies in Michigan suggest that these birds prefer to establish nesting territories in open woods where there are tall trees for singing perches, scattered clusters of hardwood saplings such as maples for nest concealment, a small clearing near the nest site, loose, fibrous bark for nest material, and abundant leaf-eating larvae for food. Apparently males do not assist with nest-building but only accompany females during that period and often attempt to mate with them. About 4–5 days are spent in nest-building, and the first egg is laid 1–3 days later. Although males have often been reported to assist in incubation, this was not observed in recent Michigan or Ontario studies, and the female also did all the brooding. Fledging occurs at about 12 days, and at least in Michigan there does not seem to be any double-brooding, although some singing may again occur at this time.

**Suggested Reading:** Southern 1958; Lawrence 1953a.



**Philadelphia Vireo**  
*Vireo philadelphicus*



**Breeding Status:** Breeds locally in wooded areas of north-central Minnesota (Becker County is the only breeding record) and in northeastern North Dakota (Turtle Mountains and Pembina County).

**Breeding Habitat:** In North Dakota this species is restricted to mature stands of quaking aspens with relatively closed canopies. More generally it is associated with second-growth willow, poplar, or alder woods, deserted farmsteads, and rarely with village shade trees.

**Nest Location:** Nests are 10-40 feet high, in forks of horizontal twigs. They are deeply cupped and suspended, with an inner lining of fine grasses, and the outside is covered with spider webs and attached birch bark, *Usnea*, or other camouflaging materials.

**Clutch Size and Incubation Period:** From 3 to 5 eggs, usually 4. The eggs are white with sparse dark spotting on the larger end. The incubation period is 14 days.

**Time of Breeding:** No egg dates are available for our region, but a dependent fledgling has been observed in North Dakota in early August.

**Breeding Biology:** As soon as males arrive on their breeding areas they establish territories and begin to patrol them, sometimes forming pair bonds within a few days of arrival. As in most other vireos, the female soon chooses a nest site while the male attends her, and in this species the female does all the nest-building. However, male Philadelphia vireos do participate in incubation, and both sexes share in feeding the nestlings and fledglings. This species overlaps extensively with the red-eyed vireo, and there is extensive co-occupation of habitats in these two forms, as well as similarities in foraging ecology. It is thus not surprising that they exhibit interspecific territoriality, facilitated by the close similarities in their territorial songs. The young are brooded by both parents, and leave the nest at 13-14 days.

**Suggested Reading:** Barlow and Rice 1977; Bent 1950.

**Warbling Vireo**  
*Vireo gilvus*

**Breeding Status:** Breeds in suitable habitats virtually throughout the two Dakotas and western Minnesota southward through most

of Nebraska (west to Dawes, Thomas, and Deuel counties), eastern Colorado (at least to Logan County, *Nebraska Bird Review* 29:9), eastern Kansas (west locally at least to Decatur County and probably to the Colorado line), Oklahoma (west locally to Cimarron County), and the Texas panhandle (suspected but unproved nesting).

**Breeding Habitat:** This vireo is associated with open stands of deciduous trees, including streamside vegetation, groves, or scrubby hillside trees, and residential areas. Although warbling and red-eyed vireos occur in the same areas, this species favors more open woodlands and tends to be a treetop forager.

**Nest Location:** Nests are in deciduous trees at heights of 4-90 feet. They are often below 20 feet in our region, but generally tend to be rather high. They are on horizontal branches well away from the trunk, and frequently in aspens. Like other vireo nests they are suspended, deeply cupped, and covered outside with spider webs, lichens, and the like.

**Clutch Size and Incubation Period:** From 3 to 5 eggs, usually 4. The eggs are white with sparse dark spotting. The incubation period is 12 days. Single-brooded.

**Time of Breeding:** North Dakota egg dates are from June 9 to June 19, but the breeding period probably extends from late May to late July. Kansas egg dates are from May 1 to June 20, with a peak in early June. The recorded breeding season in Oklahoma is from late April (nest-building) to June 22 (eggs), but the nestling period probably extends into July.

**Breeding Biology:** In spite of its widespread occurrence, this species has not been extensively studied, perhaps because many of its breeding activities take place high in trees. An early observation by Audubon indicated that both sexes helped build the nest, which is unusual in vireos, and that 8 days were required to complete it. Both sexes also incubate, and males often sing while on the nest. The fledging period is said to be 16 days. Adult birds continue to sing well into the summer, and young males learn to sing fairly well before they leave for the South in fall. In this respect, this species resembles the red-eyed and yellow-throated vireos.

**Suggested Reading:** Sutton 1949; Dunham 1964.

