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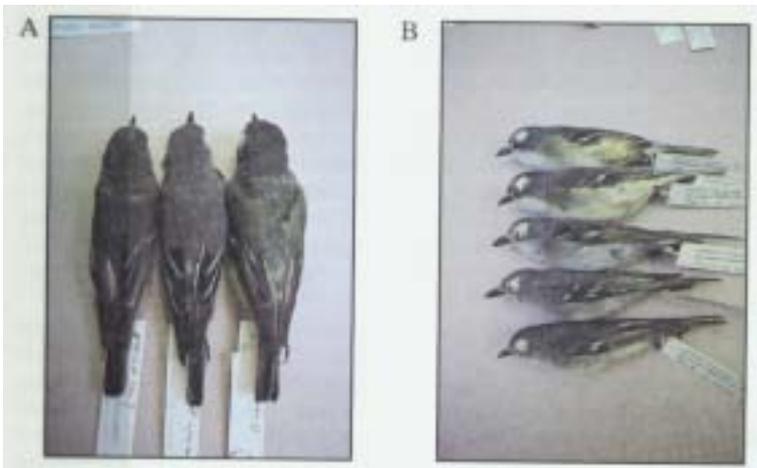
No. 1

*Bull. Oklahoma Ornithol. Soc.* 31:1-5, 1998

## Status of the Solitary Vireo complex in Oklahoma: Two “new” species for Oklahoma

by JOSEPH A. GRZYBOWSKI

The taxonomic status of the Solitary Vireo (*Vireo solitarius* Wilson) was recently revised (American Ornithologists' Union 1997) mostly on the authority of cytochrome-b sequence studies by Murray et al. (1994) and allozyme-variation studies of Johnson (1995). The four subspecies previously recognized were divided among three sister species: (1) *V. s. solitarius*, the eastern and northern form, and *V. s. alticola*, the Appalachian form, are retained, but under the English name of Blue-headed Vireo; (2) the Rocky Mountain–Great Basin form is elevated to specific status as *V. plumbeus* Coues, the Plumbeous Vireo; and (3) the Pacific Coast form is now *V. cassinii* Xantus, the Cassin's Vireo.



**Fig. 1.** Spring specimens of “Solitary” Vireos taken in Oklahoma: (A, left to right), Cassin’s, Plumbeous, and Blue-headed vireos (all females); (B, upper to lower), male Blue-headed, female Blue-headed, male Plumbeous, female Plumbeous, and female Cassin’s vireos.

The Blue-headed Vireo is the predominant species in Oklahoma, occurring as an uncommon (eastern) to rare (western) migrant in the main body of the state (Sutton 1967). It is also rare during winter in extreme southeastern Oklahoma (Oklahoma Bird Records Committee [OBRC] files [B. Heck, pers. obs.]). Specimens have been taken as far west in the state as eastern Beaver County (Sutton 1967). All have been of the nominate form, *V. s. solitarius*. One documented sighting of a Blue-headed Vireo exists for Cimarron County in the western Panhandle, 21 September 1997 (by J. Sterling and J. Woodard).

Five specimens of the Plumbeous Vireo and three of Cassin's Vireo have been taken in Oklahoma, all in northwestern Cimarron County. These forms were recognized as occurring in Oklahoma by Sutton (1967); specimens examined by Sutton (1967) and taken since are listed in Table 1. Their current distinction adds these species to the state list maintained by the Oklahoma Bird Records Committee (1997).

The proximity of the Rocky Mountain breeding areas of the Plumbeous Vireo would suggest that it should occur as a migrant in the extreme western Panhandle of Oklahoma. However, the migratory status of Cassin's Vireo away from the Pacific states and provinces is less predictable, although part of this species' apparent migration path includes the Rocky Mountains (Bent 1950). Both Plumbeous and Cassin's vireos winter in the interior and Pacific slope of Mexico (Howell and Webb 1995) north to southern California (Heindel 1996).

Cassin's Vireos have been collected in the Trans-Pecos of Texas (Oberholser 1974) and in southwestern Kansas (Graber 1954). Two specimens were obtained during September 1911 by J. T. Zimmer in Dawes County, northwestern Nebraska (University of Nebraska State Museum, R. Silcock, pers. comm.). In Colorado, Cassin's Vireo is considered a casual fall migrant and accidental spring migrant mostly on the eastern plains, with nine fall and one spring specimens (Andrews and Righter 1992). However, a specimen and several documented sight records of the Blue-headed species also exist for Colorado. Only a handful of vagrant Cassin's Vireos have been documented east of the western Great Plains, although there are records as far east as Quebec and Massachusetts (Heindel 1996).

Spring migrants of Plumbeous Vireos have been collected in Cimarron County, Oklahoma, from 8–14 May; four of the five specimens were obtained during May 1961, and three of these five were yearling males (Table 1). The only spring specimen of Cassin's Vireo was a yearling female obtained on 14 May 1961 (Table 1). Sight records of unspecified "Solitary" Vireos exist for 22 and 23 April, and 13 and 27 May in Cimarron County (Sutton 1982, Baumgartner and Baumgartner 1992). Migrant Blue-headed Vireos have been observed in the main body of the state from 20 April (probable migrant 19 April in McCurtain County) to 29 May (Sutton 1982, OBRC files), overlapping records for the other species entirely.

Table 1. Specimens of Plumbeous and Cassin's vireos taken in northwestern Cimarron County, Oklahoma.

Species Sex-age*	OMNH Collector	Specific locality	Date
Plumbeous M-yearling	6666 G. M. Sutton	Kenton (13 km E)	8 May 1970
Plumbeous M-yearling	4887 J. D. Ligon	Kenton (14.5 km E)	12 May 1961
Plumbeous M-yearling	4813 G. M. Sutton	Boise City (21 km N)	14 May 1961
Plumbeous M- > 1 yr	4820 W. M. Davis	Boise City (21 km N)	14 May 1961
Plumbeous F- > 1 yr	4885 J. D. Ligon	Regnier Ranch	11 May 1961
Cassin's F-yearling	4821 J. P. O'Neill	Boise City (21 km N)	14 May 1961
Cassin's F-immature**	7456 W. A. Carter	Boise City (24 km NW)	19 August 1973
Cassin's F-immature***	5259 G. M. Sutton	Boise City (21 km N)	29 August 1963

\*specimens aged on basis of edge wear and tone differences between primary coverts and greater wing coverts (see Pyle et al. 1987).

\*\*originally identified as *V. s. solitarius*, but identical in plumage to OMNH 5259.

\*\*\*originally aged as adult because skull believed pneumatized, although badly damaged during collection; plumage features almost identical to OMNH 7456, but not OMNH 4821.

The two fall records of Cassin's Vireo were obtained on 19 and 29 August (Table 1). One is considered an immature female. The second, although aged as an adult, is more likely also an immature; skull damage did not allow clear appraisal of pneumatization (OMNH 5259), and it is a female in almost identical plumage to the first. No fall records of Plumbeous Vireos are known for Oklahoma, although a "Solitary" Vireo of unspecified type was observed on 2 September 1965 about 21 km north of Boise City by G. M. Sutton (Sutton 1982).

The earliest Blue-headed Vireo specimen for the fall was collected 12 September 1975 in Cleveland County by D. S. Wood, although sight records for "Solitary" Vireos in the main body of the state begin as early as 1 September (exceptionally 19 August; 1995, Tulsa County, by P. Seibert), with a number of sightings by 7 September (Sutton 1982, Baumgartner and Baumgartner 1992, OBRC files, pers. obs.). One observed in Harper County, northwestern Oklahoma, on 6 September 1958 by G. M. Sutton was of unspecified type. Fall dates (outside extreme southeastern Oklahoma) generally extend to late October, with the latest being 11 (1973,

Comanche County, by J. McGee) and 27 November (1988, Osage County, by J. Cox; Sutton 1982, OBRC files). While the fall data for Cassin's Vireos are anecdotal, the dates for the two fall specimens are consistent with the notion that Cassin's migrates before the Blue-headed Vireo in the fall (Heindel 1996). Migration times of these species may still overlap extensively, however, particularly in September (see Andrews and Righter 1992).

Plumage and bill characteristics distinguishing these species are summarized extensively by Heindel (1996). Blue-headed Vireos generally are the brightest in coloration and show the sharpest contrasts in plumage colors (white throat and spectacles, gray head and olive-green back) while the generally larger-billed Plumbeous Vireo is more uniformly gray on its upperparts and sides (Fig. 1). Cassin's Vireo is effectively duller than the Blue-headed Vireo with less contrast and less distinct borders between the gray auricular and whitish throat, and between the green-gray nape and gray-green back (Fig. 1). The sides of the Cassin's Vireo are typically greenish, but they can range from dull yellow to grayish-olive; Plumbeous Vireos are never yellowish or greenish near the bend of the wing, although all Oklahoma specimens show vague tints of olive-green in the flanks. Gray Vireos (*V. vicinior*), which have been recorded in Oklahoma (Sutton 1967), are similar to Plumbeous Vireos, but are readily separated by their complete eye-ring and pale gray lores rather than white (or whitish) spectacles interrupted in front of the eye by a dark line.

Assessing the status of the migrant Cassin's Vireo in the Great Plains has been problematic because of this species' previous subspecific classification, its intermediate plumage characters relative to Blue-headed and Plumbeous vireos, and the potentially overlapping presence of its sister species. Many field observers have not differentiated previous forms or documented most records of non-Plumbeous types.

Although typical individuals of these three vireo species are distinctive, most characters need some level of subjective interpretation. Fall immatures and worn spring individuals are particularly difficult to identify. Variation caused by age, sex, molt, and plumage-wear patterns within the relatively limited plumage tone and color boundaries for these species enhances the potential for error. Heindel (1996), after his discourse on separating features, added the caveat that "a review of specimens convinced me that some birds cannot be identified confidently in the field." To this caution, one might notice that the bird labeled in Farrand's (1983) *Master Guide to Birding* as the "Rocky Mountain race" (i.e., *V. plumbeus*) has a subtle olive-green wash to its back and sides at bend of wing, and is thus actually a Cassin's Vireo (see Heindel 1996). In addition, one of the Cassin's Vireo specimens for Oklahoma was originally identified as *V. s. solitarius*. Thus, the future status of these newly recognized vireo species should be established with specimens, photographs, or careful observations and detailed written documentation.

James Hoffman, Gary Schnell, and John Tomer provided comments useful in improving this manuscript.

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715 ELMWOOD DRIVE, NORMAN, OK. 73072. Received 1 November 1997, accepted 19 December 1997.

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## Changes to the Oklahoma Bird List resulting from the Forty-first Supplement to the Check-List of North American Birds

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for the OKLAHOMA BIRD RECORDS COMMITTEE,  
OKLAHOMA ORNITHOLOGICAL SOCIETY

The American Ornithologists' Union (AOU) recently published the Forty-first Supplement to its *Check-List of North American Birds* (Auk (114:542-552, 1997). Several taxonomic and nomenclatural decisions published in the supplement affect the *Oklahoma Ornithological Society 1997 Check-list of Oklahoma Birds* (1st edition). These changes are:

1. Patronymic English names that end in "s'" are rendered in the possessive ("s's"), as are other patronyms. The names changed on the Oklahoma list are: Ross' Goose becomes Ross's Goose, Harris' Hawk becomes Harris's Hawk, Lewis' Woodpecker becomes Lewis's Woodpecker, and Harris' Sparrow becomes Harris's Sparrow.

2. The vulture family, Cathartidae, with two Oklahoma species, is removed from the order Falconiformes and placed in the family Ciconiiformes, following the family Ciconiidae.

3. There are several changes in the sequence of the ducks, geese, and swans in the family Anatidae, order Anseriformes. The Oklahoma species are now listed as follows: Black-bellied Whistling-Duck, Fulvous Whistling-Duck, Greater White-fronted Goose, Snow Goose, Ross's Goose, Canada Goose, Brant, Barnacle Goose, Mute Swan, Trumpeter Swan, Tundra Swan, Wood Duck, Gadwall, Eurasian Wigeon, American Wigeon, American Black Duck, Mallard, Mottled Duck, Blue-winged Teal, Cinnamon Teal, Northern Shoveler, Northern Pintail, Garganey, Baikal Teal, Green-winged Teal, Canvasback, Redhead, Ring-necked Duck, Greater Scaup, Lesser Scaup, Surf Scoter, White-winged Scoter, Black Scoter, Oldsquaw, Bufflehead, Common Goldeneye, Barrow's Goldeneye, Hooded Merganser, Common Merganser, Red-breasted Merganser, Ruddy Duck.

4. The Gray Hawk is removed from the genus *Buteo* and placed in the genus *Asturina*; its scientific name becomes *Asturina nitida*. It follows the Northern Goshawk and precedes the Harris's Hawk.

5. The Northern Bobwhite and Scaled Quail are placed in the family Odontophoridae in the same position they currently occupy on the list.

6. The specific name of the American Golden-Plover is corrected to *dominica* (the Oklahoma list is correct, not having been changed to the erroneous *dominicus*).

7. The genus of the Burrowing Owl is changed from *Speotyto* to *Athene*.

8. The scientific name of the Olive-sided Flycatcher has been changed from *Contopus borealis* (Swainson, 1832) to *Contopus cooperi* (Nuttall, 1831).

9. The Cliff Swallow is removed from the genus *Hirundo* and restored to the genus *Petrochelidon*, thus becoming *Petrochelidon pyrrhonota*. It follows the Barn Swallow instead of preceding it.

10. The shrikes (family Laniidae) and vireos (family Vireonidae), in that order, are moved to a position between the swallows (Hirundinidae) and the crows (Corvidae).

11. The chickadees are removed from the genus *Parus* and placed in the genus *Poecile*. The scientific name of the Black-capped Chickadee is changed to *Poecile atricapillus* (Linnaeus, 1766), and the scientific name of the Carolina Chickadee becomes *Poecile carolinensis* (Audubon, 1834).

12. The titmice are removed from the genus *Parus* and placed in the genus *Baeolophus*. The scientific name of the Tufted Titmouse becomes *Baeolophus bicolor* (Linnaeus, 1766).

13. The Plain Titmouse is split into two species, the Oak Titmouse (*Baeolophus inornatus* Gambel, 1845) and the Juniper Titmouse (*Baeolophus ridgwayi* (Richmond, 1902)). The species found in Oklahoma is the Juniper Titmouse.

14. The Golden-crowned Kinglet and the Ruby-crowned Kinglet are placed in the family Regulidae ahead of the family Musicapidae.

15. The thrushes within the family Muscicapidae, subfamily Turdinae, are returned to family rank as the family Turdidae.

16. The starlings (family Sturnidae) are moved to a position immediately following the mimic thrushes (Mimidae).

17. The Solitary Vireo is divided into three species: the Blue-headed Vireo (*Vireo solitarius* (Wilson, 1810)); Cassin's Vireo (*Vireo cassinii* Xantus, 1858); and Plumbeous Vireo (*Vireo plumbeus* Coues, 1866). All three species have been recorded in Oklahoma (Grzybowski, 1998, *Bull. Oklahoma Ornithol. Soc.* 31:1-5).

18. The subfamilies within the family Emberizidae (Parulinae, Thraupinae, Cardinalinae, Emberizinae, and Icterinae) are returned to their former rank as families (Parulidae, Thraupidae, Cardinalidae, Emberizidae, and Icteridae).

19. The subfamily Cardinalidae, with its nine Oklahoma species, is moved to follow the family Emberizidae.

20. The Harris's Sparrow is placed ahead of the White-crowned Sparrow in the genus *Zonotrichia*, instead of after.

21. The Common Grackle is placed ahead of the Great-tailed Grackle in the genus *Quiscalus*, instead of after.

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## NOTES

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**Late nesting date for the Carolina Wren in Oklahoma.**—Carolina Wrens (*Thryothorus ludovicianus*) are opportunistic nesters, breeding not only in natural crevices but also in nest boxes, mailboxes, stone walls, pockets of old clothes, old woodpecker holes, and building rafters (Bent, 1948, Life histories of North American nuthatches, wrens, thrashers and their allies, U. S. Natl. Mus. Bull. 195). I recently discovered a Carolina Wren nest on an interior ledge above a barn doorway near Macomb in central Pottawatomie County, Oklahoma. On 18 August 1997, I flushed a female incubating five eggs. My daily nest checks revealed that all eggs hatched on 21 August, and all five nestlings fledged on 2 September at 12 days of age.

Current nesting dates for Oklahoma range from 18 March when one egg was found in Cleveland County to 1 August when five eggs were discovered in LeFlore County (Sutton, 1967, Oklahoma birds, Univ. Oklahoma Press, Norman). The nest discovered in Pottawatomie County surpasses the previously reported latest nesting date for Oklahoma by 32 days. The latest dates reported for Arkansas are 12 August when young were still in a nest in Union County in the southern part of the state, and 29 September when young were just fledging from a nest at Little Rock (James and Neal, 1986, Arkansas birds, Univ. Arkansas Press, Fayetteville). The reported late nesting date for Kansas is 10 August (Johnson, 1964, The breeding birds of Kansas, Univ. Kansas Publ. Mus. Nat. Hist. 12: 575–655), while that of Texas is 13 August (Oberholser, 1974, The bird life of Texas, vol. 2, Univ. Texas Press, Austin). I suspect that late nesting by Carolina Wrens occurs frequently in Oklahoma during mild summers, though probably overlooked because of their permanent resident status.—HOPE R. MCGAHA, Rt. 1, Box 188, Macomb, OK. 74852. Received 26 November 1997, accepted 16 January 1998.

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