NESTING OF PLUMBEOUS SOLITARY VIREO IN THE SOUTHERN SIERRA NEVADA

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On 26 June 1983 a nest of the Plumbeous Solitary Vireo (*Vireo solitarius plumbeus*) was discovered at an elevation of 1810 m on Chimney Creek below Chimney Meadow, Kern Plateau, Tulare Co., California. This observation may be the first record of this Rocky Mountain/Great Basin subspecies nesting on the west slope of the Sierra Nevada. Ned K. Johnson collected specimens in breeding condition on 23 May 1973 about 6 km northwest of Chimney Peak at an elevation of 2315 m (Johnson and Garrett 1974); no nest was found. Johnson's specimen records are only 8 km northwest of the location described in this report. The nearest nesting records are to the north in the White Mountains of eastern California, and to the south in the San Bernardino Mountains of southern California, both of which have habitat similar to that found along Chimney Creek in the arid, pinyon-clad southeastern corner of the Kern Plateau. The White and San Bernardino mountains have slopes that descend to the desert edge. The east slope of the southern Sierra also descends to the desert; however, Chimney Creek is on the west slope of the Sierra, and is part of the South Fork Kern River drainage.

Chimney Creek Canyon is a steep-sided gorge cut through large boulders of weathered granite. Pinyon Pine (*Pinus monophylla*), Jeffrey Pine (*P. jeffreyi*), and

Figure 1. Chimney Creek Gorge, Kern Plateau, Tulare Co., California. Nesting habitat of Plumbeous Solitary Vireo; slopes dominated by Pinyon and Jeffrey pines and Canyon Live Oak. Riparian growth is predominantly willow.

Photo by Larry L. Norris

Canyon Live Oak (*Quercus chrysolepis*) are the dominant trees on the canyonsides, while willows (*Salix* spp.) dominate the riparian areas along the creek (Figure 1). This ecotone of dry canyonside and riparian canyonbottom is recognized as preferred Plumbeous Solitary Vireo habitat (Garrett and Dunn 1981: 302).

On 26 June 1983, Bob Barnes, of Tulare County Audubon Society, was leading a field trip up Chimney Creek Canyon when he heard a Solitary Vireo song coming from the top of a Canyon Live Oak. As the bird slowly descended through the sparse foliage it was recognized to be of the *plumbeus* race by the large white area between eyes and bill, white throat, gray back, and thick base of the bill. To everyone's surprise the bird fluttered down, with insects in its bill, to a nest, and exchanged places with another Plumbeous Solitary Vireo.

The nest was hung toward the end of a lower branch on a Canyon Live Oak about 2 m above the ground. It was constructed of grasses and moss to form a deep bowl with white flower petals attached to the outside. The nest was in no way concealed; nevertheless, it was not easily seen at first because the white petals against the darker moss caused the nest to blend into the mottled light and shade background.

Ian Austin, of the Los Angeles Audubon Society, watched quietly from 1030 to 1200 observing the feeding exchange sequence of the vireo pair, and documenting the nesting with photographs (Figure 2). Both adult vireos were observed feeding small nestlings. Austin recorded six feeding exchanges during the 1.5 hour observation period. These occurred at intervals of 5 to 15 minutes with one adult always on the nest.

Figure 2. Plumbeous Solitary Vireo (*Vireo solitarius plumbeus*) on nest in Canyon Live Oak (*Quercus chrysolepis*). Chimney Creek, Kern Plateau, Tulare Co., California, 26 June 1983.

Photo by Ian Austin

Austin's field notes give a detailed account of the behavior of the adult vireos as they exchanged places on the nest: "The feeding exchange sequence is similar with both adults. It starts with the returning bird calling from the top of the tree and continuing to call as it approaches the nest. The returning bird typically took 2 to 3 minutes to descend from the treetop. The adult on the nest often made a yawning or mock food demanding gesture as the returning bird approached. The sequence was completed by the sitting adult quickly leaving the nest as the returning adult moved in to feed the young and then settle down on the nest replacing the mate. The food consisted mainly of small caterpillars.

"Both birds were heard singing while descending, though one adult, presumably the female, once only made guttural chips. Both birds froze during the feeding exchange when a Steller's Jay (*Cyanocitta stelleri*) called in the distance." The adult vireos seemed to be undisturbed by Austin's long presence at a distance of 2 m.

Later in the day Barnes and I observed another Plumbeous Solitary Vireo in the drainage entering the northwest side of Lamont Meadow about 2 km southwest of the nest observation. This bird probably was not one of the pair observed earlier, although Chimney Creek flows through Lamont Meadow. This observation was of interest because it not only documented another Plumbeous Solitary Vireo in the area, but the vireo had responded to the repeated playing of a tape of the Gray Vireo (*V. vicinior*) song. In fact, the Plumbeous Solitary Vireo's response was nearly identical to the Gray Vireo tape.

Cassin's Solitary Vireo (*V. solitarius cassinii*) is a fairly common nester on the west slope of the Sierra at the lower limits of the mixed coniferous forest where California Black Oak (*Quercus kelloggii*) occurs. On the Kern Plateau *cassinii* has been observed on the forested slopes of the Kern River Canyon at the western edge of the plateau. Barnes and I have never observed *cassinii* in the pinyon forest on the lower, southeastern section of the Kern Plateau.

There appears to be a habitat segregation between the two subspecies: *cassinii* nesting in the cooler, mesic mixed coniferous forests of the western portion of the southern Sierra and *plumbeus* nesting in the warmer, more arid canyons of the pinyon-clad southeastern section of the Kern Plateau. Elevation does not seem to be a critical factor in the two subspecies' choice of nesting habitats since both are found nesting from approximately 1500 to 2000 m in the southern Sierra. The plant community is the deciding factor, but for whatever reason(s) is unknown to me. Because of the similarity of the habitat on the southeastern section of the Kern Plateau to other known nesting areas in the state, many more pairs of Plumbeous Solitary Vireo quite possibly nest along the creeks and canyons of the Kern Plateau in the southern Sierra Nevada.

LITERATURE CITED

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