

A Recent Breeding Record for the Chipping Sparrow from the Central Valley Floor

John Trochet, Museum of Wildlife and Fish Biology, Department of Wildlife, Fish and Conservation Biology, University of California, Davis, California 95616. jatrochet@ucdavis.edu

A pair of Chipping Sparrows (*Spizella passerina*) successfully reared at least two young through fledging age at the Cosumnes River Preserve in southern Sacramento County, providing the second breeding record for the county, the first being in 1886. I consulted with active observers from up and down the valley, and this appears to be the first confirmed breeding record from the Central Valley floor in many decades. This paper summarizes the circumstances of this breeding record and discusses the general status of breeding by the species in the Central Valley.

On 28 April 2020 I found a singing Chipping Sparrow near the west edge of the Tall Forest at the Cosumnes River Preserve (CRP), Sacramento County, California. Having walked by this spot numerous times before and after this date, I assumed this bird was a transient through the area, until 13 May when I heard a singing Chipping Sparrow in the same area, now escorting a second bird. The second bird twice solicited copulation. Despite more focused seeking on my part, these birds remained elusive. About half of my subsequent visits to search for the sparrows were unsuccessful, more so before fledging. The only vigorous singing I encountered was well before sunrise on 24 May. I heard some 75-100 songs in two bouts within a five-minute period before the male fell silent for the next half hour. Otherwise I heard song delivered only at a languid pace. I searched for the nest in the oaks, but never succeeded in finding it. Not having detected the birds in 10 days, on 4 June I thought that the Chipping Sparrows had abandoned their breeding effort.

The next day, I walked 150-200 meters north of the most northerly spot that I had detected the Chipping Sparrows, and I heard one calling. I turned to see it in the air carrying food. An adult landed in an oak tree about 15 m off the road, toward the insistent begging of unseen birds. The adult saw me and dropped its bill-full of food. After several more chips, the young sparrows fell quiet, until the adult flew off, still chipping. Two stub-tailed juveniles, clearly Chipping Sparrows, shortly fluttered after it.

Even with volant young to care for, these birds often evaded detection. After fledging, I never found more than one adult with two juveniles on any

outing. Chris Conard accompanied me to photograph the birds and habitat on 19 June. Chris saw or heard three Chipping Sparrows, only one of which he was able to photograph (Figure 1 and front cover). Two days later I had my last detection, the male in desultory song.



Figure 1. Juvenile Chipping Sparrow at the Cosumnes River Preserve on 19 June 2020.
Photo by Chris Conard

The habitat used (Figure 2) was valley oak (*Quercus lobata*) savanna at 2 m elevation above sea level, separated from the west edge of the Tall Forest by a dirt service road. The savanna resulted from an acorn-planting in November 1989 (Sara Sweet pers. comm.). Although the planted trees are the same age, their size varies depending on how long ago they were able to grow above the browse height of black-tailed deer (*Odocoileus hemionus*). Most trees are 6-8 m tall and 15-18 cm dbh (diameter at breast height). A few are 10-12 m tall and 20-25 cm dbh, while some are only 1.3 m tall. Canopy cover varied from nearly approximately 60% in the south to some 10% in the north.

The adjacent mature forest trees are mostly 18-20 m tall and 50-85 cm dbh and form a closed canopy with little understory vegetation. Some 30-40 m east of the service road is Wood Duck Slough, a permanent water body. Agricultural fields occur to the west of the savanna. Early in the season, these

areas supported ruderal grasses and forbs, but by late in the breeding season they were shallowly flooded organic rice fields.

Two areas of savanna were used by the birds. These areas were separated by a thickly vegetated drainage ditch, that I never saw being used by the sparrows. The ditch was overgrown with a mix of small valley oaks, mixed willows (*Salix spp.*), and Oregon ash (*Fraxinus latifolia*). Himalayan blackberry (*Rubus armeniacus*) and California rose (*Rosa californica*) were the major understory plants.

The total area used by the pair was about 4.3 ha (roughly 100 m east-to-west by 400 m north-to-south). The pair initially confined their activities to the more densely wooded southern area, 2.2 hectares in extent. I found the sparrows in the northern 2.1-ha area only occasionally after the young had fledged.



Figure 2. Presumed Chipping Sparrow nesting area at Cosumnes River Preserve, 19 June 2020.

Photo by Chris Conard

Vegetative ground cover within the used savanna area was about 98%, with bare soil limited to the bases of some oaks. Tree density diminished slowly from south to north and was greatest in the presumed nesting area in the south. Vegetation consisted mostly of grasses. Creeping wild rye (*Leymus triticoides*) was most prominent in the southern area of presumed nesting, and Italian ryegrass (*Lolium perenne*) was the most widespread grass species. Other grasses of much more limited extent included ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), meadow barley (*Hordeum*

brachyantherum), foxtail barley (*Hordeum murinum*), wild oats (*Avena fatua*), and saltgrass (*Distichlis spicata*). Forbs covered about 15% of the ground. These included wild radish (*Raphanus sativus*), field mustard (*Brassica rapa*), black mustard (*Brassica nigra*), perennial pepperweed (*Lepidium latifolium*), chicory (*Chicorium intybus*), wild licorice (*Glycyrrhiza lepidota*), curly dock (*Rumex crispus*), bristly ox-tongue (*Helminthotheca echioides*), mugwort (*Artemisia douglasiana*), bindweed (*Convolvulus arvensis*), western ragweed (*Ambrosia psilostachya*), slender bird's beak (*Cordylanthus tenuis*), common bedstraw (*Galium aparine*), Spanish clover (*Acmispon americanus*), slender sedge (*Carex praegracilis*) and bur chervil (*Anthriscus caucalis*). Some of these forbs (e.g., wild radish, mustards, common bedstraw) were conspicuous only early in the breeding season. Additionally, there were a handful of small Oregon ash saplings. Structurally and floristically, the CRP breeding site is similar to that of the foothills breeding sites on the east and west sides of the Central Valley.

Many other breeding birds shared the savanna habitat. These included Wild Turkey (*Meleagris gallopavo*), Mourning Dove (*Zenaida macroura*), Nuttall's Woodpecker (*Picoides nuttallii*), Western Kingbird (*Tyrannus verticalis*), Ash-throated Flycatcher (*Myiarchus cinerascens*), Bushtit (*Psaltriparus minimus*), House Wren (*Troglodytes aedon*), Western Bluebird (*Sialia mexicana*), American Robin (*Turdus migratorius*), American Goldfinch (*Spinus tristis*) and Spotted Towhee (*Pipilo maculatus*). Brown-headed Cowbird (*Molothrus ater*) pairs often searched the savanna for brood hosts until early June. Other species that bred in the adjacent forest and foraged at least occasionally in or over the savanna included Cooper's Hawk (*Accipiter cooperii*), Red-shouldered Hawk (*Buteo lineatus*), Swainson's Hawk (*Buteo swainsoni*), Black Phoebe (*Sayornis nigricans*), Hutton's Vireo (*Vireo huttoni*), California Scrub-Jay (*Aphelocoma californica*), Tree Swallow (*Tachycineta bicolor*), Oak Titmouse (*Baeolophus inornatus*), White-breasted Nuthatch (*Sitta carolinensis*), House Finch (*Haemorhous mexicanus*), and Bullock's Oriole (*Icterus bullockii*). The Common Yellowthroat (*Geothlypis trichas*) and Blue Grosbeak (*Passerina caerulea*) nested in the vegetative edge of the adjacent rice fields and foraged regularly in the savanna.

The Chipping Sparrow is a widely distributed, polytypic, North and Middle American passerellid. Its breeding range extends from the limit of trees in east-central Alaska and across Canada in the north, through most of the United States, and south in the uplands of Mexico to pine savannas of northern Middle America (Middleton 1998). The breeding form in western North America north of southern Sonora and southern Chihuahua is *S. p. arizonae* (Paynter 1970, Grinnell and Miller 1944), although Pyle (1997) also recognized the coastal *S. p. stridula*. Recent written descriptions and maps of the breeding range within California have explicitly excluded the Central Valley (Small 1994, Middleton 1998).

Chipping Sparrows breed in a variety of habitats that vary geographically (Middleton 1998). Over most of its range, the species prefers conifers with adjacent grassy and/or brushy clearings. Primarily in the southern US, it also uses oaks (*Quercus* spp.) and other broadleaf trees. Trees in occupied areas are most commonly of intermediate stature. In coastal California, the sparrow nests sparingly in groves of non-native cypress (*Cupressus* sp.) and *Eucalyptus* adjacent to gentle grassy slopes or flats. In the American Southwest it is common-to-abundant among evergreens near clearings and in middle elevation riparian settings with deciduous trees. The nest is usually placed in a tree within 6 m of the ground, or rarely on the ground (Rising 1996). Chipping Sparrows have been found nesting locally in areas adjacent to the central portion of the Central Valley within blue oak (*Quercus douglasii*) savanna as low as 180 m elevation (E. Pandolfino pers. comm., referring to Nevada County). I have sought but not found summering Chipping Sparrows in this habitat at Howard Ranch in southeastern Sacramento County, where the highest elevation is 165 m.

Few previous reports exist of Chipping Sparrows breeding on the Central Valley floor. Belding (1890) reported that this species was a moderately common summer resident in the valleys of central California, but he provided specific information only for Marysville. There in the mid-1880s, it was a “tolerably common summer resident,” arriving from mid-March to mid-April depending on the year. Bolander (1907) found nests in the Yuba River bottoms adjacent to the town that had been altered by hydraulic gold mining. The only other report I found was by Tyler (1913), who described the species as a common spring migrant near Fresno, with only one proven nesting. On 8 June 1912 he found a nest with four eggs near Clovis (egg set at Western Foundation of Vertebrate Zoology [WFVZ], Catalog No. EN-33031). The setting was not described.

Grinnell and Miller (1944) give Red Bluff as a breeding locality, citing the Lassen Region Museum of Vertebrate Zoology survey (Grinnell et al. 1930). However, like the Belding (1890) characterization, the Lassen survey species account cites only a specimen taken at Red Bluff and gives no specific information regarding nesting there. WFVZ also holds an egg set from Sacramento County (Catalog No. EN-115856) from 12 May 1886. Unfortunately, no additional location data are available for the record. Lack of locality description also applies to several WFVZ egg sets taken in the late 1930s from Fresno County (which extends into montane habitat), but the previous record by Tyler (1913) suggests that these sets could have been from the lowlands.

Dozens of Chipping Sparrow observations have been reported to eBird from the length of the Central Valley during the period of dates that the 2020 pair were present at CRP. Most of these observations, however, are from April to the first half of May and thus overlap the period of spring migration

through the valley. None of the observations report definitive evidence of breeding and only a few recent records of summer hatch-year birds occur. These include six birds in August 2018 in Stanislaus County (<https://ebird.org/checklist/S48541212>) and a July 2020 singleton near Guinda, Yolo County, in the Capay Valley at the edge of the Coast Range. These hatch-year birds, however, were noted after the date that the Chipping Sparrows breeding this year at CRP had abandoned the natal territory, so they could have been migrants.

Given the difficulty I experienced tracking the activities of this year's pair of Chipping Sparrows at CRP, it is possible that this species has bred elsewhere in the Central Valley and escaped notice. A widespread breeding range expansion onto the valley floor seems unlikely, however, for two reasons. Climate change seems likely to have made the valley hotter and drier. Indeed, in some areas of New Mexico at least, breeding Chipping Sparrows have withdrawn from the lowest, hottest, and driest conifers of the pinyon-juniper belt over the past 40 years (pers. obs.). Additionally, most of the suitable Central Valley habitat has been converted to human use, either to agriculture or to urban and suburban human habitations, though there are numerous orchards that may remain suitable. Perhaps these orchards are where to look for breeding Chipping Sparrows in the Central Valley.

The fact that when seen after fledging, the Chipping Sparrows at Cosumnes Preserve were found only in trios (one adult with two juveniles) is of interest. Brood division, in which each parent assumes sole responsibility for the care of a subset of the fledglings, has not been reported in breeding Chipping Sparrows (Middleton 1998). Brood division, however, is widespread among birds in many different habitats (Skutch 1976, McLaughlin and Montgomerie 1985 and references therein). Drivers of brood division may include increased efficiency of provisioning by the parent, reduced predator attraction, and male provisioning only of young he sired (McLaughlin and Montgomerie 1985). These selective forces are not mutually exclusive.

It is ironic that the Chipping Sparrows bred at the CRP during the first year since 1999 that we were unable to find breeding Oregon Dark-eyed Juncos (*Junco hyemalis*) there; neither could we locate nesting Orange-crowned Warblers (*Leiothlypis celata*) in 2020, another scarce but regular local breeder. It remains to be seen if breeding by Chipping Sparrows at the CRP was a one-time anomaly or the start of a consistent pattern of breeding.

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