

## First Central Valley record of Cassin's Sparrow

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Just before 0700 on Saturday, 21 May 2005, I heard a singing Cassin's Sparrow (*Aimophila cassinii*) while conducting point counts on the Deer Creek Hills Preserve in eastern Sacramento County. Initially I was unable to see the bird and needed to complete the point count survey before trying to visually verify the identification. I returned a little after 0900 and the Cassin's Sparrow was now singing continuously while perched on the fence along Latrobe Road. On occasion it also "skylarked," flying several meters into the air, usually singing at the top of its flight and while descending. The singing and display continued without pause for nearly 30 minutes. At around 0945 the bird dove to the ground, stopped singing and did not reappear until shortly after 1000. During this first morning and the ten days that it remained in the area, many observers saw and heard the bird. Numerous photographs were taken and recordings of the song were made by John Sterling (Figure 2) and John Trochet. There were reports of the bird's presence every day for the next ten days, with the last known sighting occurring on Monday, 30 May 2005.

This location is an area of rolling grassland on thin, rocky, non-alluvial soils. Depending on what definition one chooses for the Central Valley, this area could be considered either the valley's eastern edge or the western edge of the Sierra Nevada Foothills. Regardless of the exact boundaries one recognizes, this is the first record of Cassin's Sparrow within the Central Valley or the surrounding foothills.

### IDENTIFICATION

I made the initial identification by song alone. The song of the Cassin's Sparrow is unique among North American birds. As described by Borror (1971) it consists of an introductory phrase of one to three notes on the same pitch followed by a long trill that changes modulation rate, but not pitch, approximately in the middle of the phrase. The song ends with four short notes, the first and third at a high pitch and the second and fourth at a low pitch. Figure 2 is a sonogram made from a recording of the Cassin's Sparrow discussed here. In addition to the song itself, the "skylarking" behavior that was often associated with this bird's singing is further confirmation of its identity.

Visually the bird appeared to be a very plain pale brown sparrow with a moderate-sized bill and a fairly long tail. Plumage field marks were characteristically subtle. It showed an indistinct dark crown and a faint auricular pattern that produced just a hint of a supercilium, a pale eye ring

only visible in the best views, and the slightest suggestion of wing bars. The throat was white and the underparts showed very faint streaks on the sides of the breast and the flanks. The back was unstreaked with a "checkered" pattern formed by dark-centered, pale-edged feathers. Though not initially obvious to me in the field, the finely barred tail, a field mark diagnostic for this species, clearly shows in many of the photographs taken of the bird.

Table 1. Cassin's Sparrow records accepted (or pending acceptance) by the California Bird Records Committee (CBRC).

<b>DATE</b>	<b>CBRC #</b>	<b>LOCATION</b>
1969, 11-12 July	1984-036	SE Farallon I., San Francisco Co.
1969, 22-23 Sept.	1984-009	SE Farallon I., San Francisco Co.
1970, 15-30 May	1988-075	El Cajon, San Diego Co.
1970, 2-4 June	1984-010	SE Farallon I., San Francisco Co.
1975, 12 June	1989-015	SE Farallon I., San Francisco Co.
1976, 8-11 May	1976-062	El Cajon, San Diego Co.
1978, 2 May	1980-069	Salton Sea, Riverside Co.
1978, 8-16 May	1980-068	Stoddard Valley, San Bernardino Co.
1978, 21 May-7 June	1978-126	Lanfair Valley, San Bernardino Co.
1978, 10-12 June	1980-073	El Cajon, San Diego Co.
1982, 17 June-6 July	1982-091	SE Farallon I., San Francisco Co.
1984, 29 May	1986-462	Little River Mouth, Humboldt Co.
1984, 17-23 June	1984-197	Mono Lake, Mono Co.
1984, 1-3 Oct.	1987-211	SE Farallon I., San Francisco Co.
1985, 17-30 Sept.	1985-181	SE Farallon I., San Francisco Co.
1985, 29 Sept.-2 Oct.	1985-180	SE Farallon I., San Francisco Co.
1986, 10-18 May	1986-268	Bolsa Chica, Orange Co.
1986, 22 Sept.	1987-059	SE Farallon I., San Francisco Co.
1987, 9 May	1989-054	Lompoc, Santa Barbara Co.
1988, 13 Sept.	1988-211	SE Farallon I., San Francisco Co.
1993, 8-30 May	1993-077 A&B	Lanfair Valley, San Bernardino Co.
1993, 14-16 Aug.	1993-188	Death Valley, Inyo Co.
1995, 26 May	1999-198	Domenigoni Hills, Riverside Co.
1995, 15-17 Oct.	1995-140	SE Farallon I., San Francisco Co.
2000, 10-12 Oct	2001-016	SE Farallon I., San Francisco Co.
2001, 1-4 June	2001-118	Chiquita Canyon, Orange Co.
2001, 8 June	2001-112	Castaic, Los Angeles Co.
2001, 10-13 June	2001-135	Weldon, Kern Co.
2001, 2 Nov.	2001-192	San Clemente I., Los Angeles Co.
2004, 16-17 Sept.	2004-143	Stinson Beach, Marin Co.
2005, 21-30 May	2005-061*	Deer Crk . Hills Pres., Sacramento Co.

\*pending CBRC acceptance

## PATTERNS OF OCCURRENCE IN CALIFORNIA

The breeding range of the Cassin's Sparrow extends from northern Mexico, through the western two-thirds of Texas, the westernmost parts of Oklahoma and Kansas, the southwestern edge of Nebraska and southeastern corner of Wyoming, through eastern Colorado, most of the east and south of New Mexico and west into southeastern Arizona (Dunning et al. 1999). This species winters from just north of the Mexican border in Texas, New Mexico and Arizona, south through most of northern Mexico (Howell and Webb 1995).

According to reports from the California Bird Records Committee (<http://www.wfo-cbrc.org/cbrc/>), the Cassin's Sparrow reported here is the 31<sup>st</sup> occurrence of this species in California, but only the third for mainland Northern California (Table 1). As shown in Figure 1, most records are from May or June (18 of 31) and nearly all (16 of 18) mainland records are from these two months. Nine of the ten fall (September through November) records are from offshore locations and the tenth is coastal (Stinson Beach, Marin County). It is not clear whether this indicates a pattern of occurrence or is just the result of the difficulty of detecting this species in the fall when birds are usually not singing.

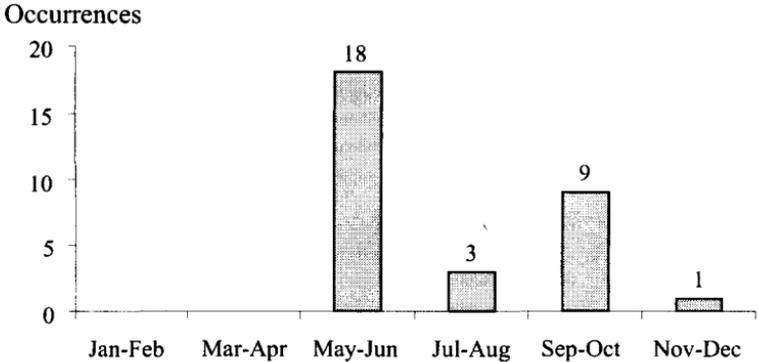


Figure 1. California occurrences of Cassin's Sparrow (*Aimophila cassinii*) by month of first detection.

The ten-day stay of the Cassin's Sparrow reported here is fairly typical of other spring or summer California occurrences of this species. Other Cassin's Sparrows found in May, June or August stayed an average of 6 days, with a range from 1 to 23 days.

In an attempt to determine the likely geographic origin of this sparrow, I compared its song pattern (e.g., Figure 2) to published examples in the literature. Borror (1971) examined 263 songs from 23 Cassin's Sparrows (12 from Texas and 11 from Arizona). He noted that the song repertoires of individuals of this species are small with at most three different songs given

kHz

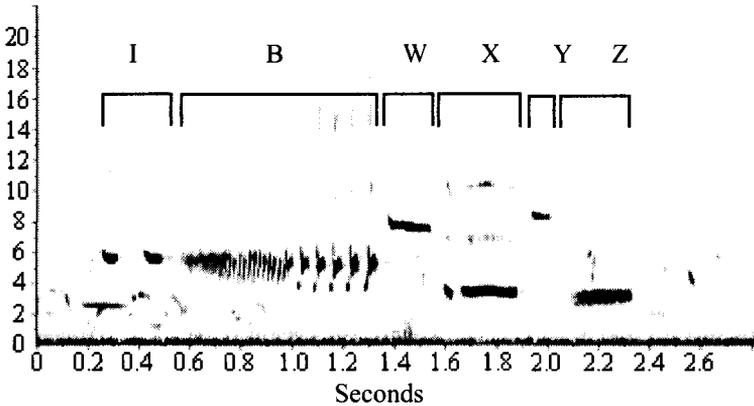


Figure 2. Sonogram of Cassin's Sparrow (*Aimophila cassinii*) recorded in Sacramento County on 22 May 2005.

by any one bird. However, there is great song variation between individuals (Schnase and Maxwell 1989). Borror was unable to find any particular features that could be used to unequivocally distinguish Texas from Arizona birds, but he did note four features that showed the largest differences between birds from these regions. The Cassin's Sparrow discussed here shows song features consistent with a Texas origin for two of the three features that could be compared. Borror organized the song into six phrases in order of their occurrence in the song:

- Introductory note(s) = *I*
- The long two-parted trill = *B*
- The first high pitched note = *W*
- The next low-pitched note = *X*
- The next high-pitched note = *Y*
- The last low-pitched note = *Z*

He noted that Texas birds were more likely to have two or three parted versions of phrase *I*, Arizona birds were more likely to have three-parted *B* phrases, Arizona birds sometimes dropped the *W* phrase, and the modulation rate of the slower part of phrase *Z* averaged higher in Arizona Cassin's Sparrows. The songs recorded from the bird discussed in this paper had a distinctly two-parted *I* phrase, a two-parted *B* phrase and always had a *W* phrase. It was not possible to analyze the last feature as this bird did not change modulation rate in its *Z* phrase. Though Borror did not mention any Cassin's Sparrows without this change in modulation rate in *Z*, Schnase and Maxwell (1989) show such an example from a Texas bird and the Arizona Cassin's Sparrow recorded on the Cornell Lab's Field Guide to Western Bird

Songs (Budney and Kimball 1992) also shows this feature. In addition, Borror mentions that the only example of a bird repeating the Z phrase twice occurred in a single Texas bird. In one of the songs recorded from the Sacramento County Cassin's Sparrow, it repeated the Y and Z phrases at the end of a song. Though it is not possible to determine the origin of this bird from this analysis, all song features noted are consistent with its having come from Texas.

The relatively nomadic nature of the Cassin's Sparrow's migration to its breeding sites may provide some basis for the pattern of vagrancy seen in California in the spring and summer. This species is well-known to appear in unexpected locations and in unexpected numbers within its breeding range (Dunning et al. 1999), usually associated with the appearance of lush grassland habitat due to locally heavy spring or summer rains. Indeed, in one remarkable California occurrence in Lanfair Valley in 1978, 15 singing male Cassin's Sparrows were found.

The spring rains in the Central Valley this year produced lush grassland conditions that may have seemed inviting to at least one particularly optimistic Cassin's Sparrow.

#### LITERATURE CITED

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