California Towhee

Green-tailed Towhee

Rufous-crowned Sparrow

Aimophila ruficeps

Order:PASSERIFORMES
Family:PASSERELLIDAE

Distribution, Migration, and Habitat

Figure 1. Distribution of the Rufous-crowned Sparrow.

Enlarge

This species is resident throughout its range, but individuals may move to lower elevations or latitudes during severe winters.


Arctic Ocean
Greenland
Iceland
Canada
United States
Mexico
North Pacific Ocean
North Atlantic Ocean
Venezuela
Colombia

eBird range map for Rufous-crowned Sparrow

Enlarge

Generated from eBird observations (Year-Round, 1900-present)

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Figure 2. Typical breeding habitat of Rufous-crowned Sparrow

Enlarge

Coastal sage scrub, typical breeding habitat of Rufous-crowned Sparrow in nw. Santa Barbara Co., CA. Shown is a slope vegetated with open coastal sage scrub (California sagebrush [Artemisia californica] dominant). Photo by P. W. Collins.

Distribution in the Americas

Occurs throughout much of sw. U.S. and Mexico, but range is often discontinuous, with numerous small, isolated populations (Figure 1).

Resident in California from Mendocino and Glenn Cos. south through coastal slopes, foothills, and interior valleys of the Coast, Transverse and Peninsular ranges into nw. Baja California Norte, from Shasta Co. south through western foothills of Cascades and Sierra Nevada to sw. Kern Co., in Coxcomb Mtns. of Joshua Tree National Monument, in Granite, Providence, and New York Mtns. of e. San Bernardino Co., at Marysville Buttes, Sutter Co., and on Santa Cruz, and Anacapa Is. (Grinnell and Miller 1944, Remsen and Cardiff 1979, Garrett and Dunn 1981, Small 1994). East of California, resident in Washington Co. (Zion Canyon and Virgin) in extreme sw. Utah (Wauer Wauer 1965b, Wauer 1967b, Wauer 1997, Hayward et al. 1976a, Behle et al. 1985); nw. through se. Arizona (Phillips et al. 1964a, Arizona Breeding Bird Atlas [BBA] unpubl.), western portions of s. New Mexico through ne. New Mexico (Ligon 1961, Hubbard 1978c) to se. Colorado (Otero, Bent, Las Animas, and Baca Cos.; Andrews and Righter 1992, Jones 1998h), and Cimarron Co., OK (Baumgartner and Baumgartner 1992); throughout much of Texas north of 28°N and west of 97°W (Oberholser 1974c, Texas BBA unpubl.), throughout central Oklahoma (Nice 1931b, Sutton 1967b, Johnsgard 1979a, Wood and Schnell 1984, Baumgartner and Baumgartner 1992), and in Logan Co., AR (Magazine Mtn.; James and Neal 1986). Observations in Nevada at Lehman Caves in Great Basin National Park, White Pine Co., and in Spring Mtns. west of Las Vegas, Clark Co. (Alcorn 1988), suggest that this species' status in Nevada remains uncertain.

In Baja California, resident in northwestern portion of Baja California Norte north of latitude 30°, in Sierra de la Laguna Mtns. of Baja California Sur, and on Isla de Todos Santos and formerly Isla de San Martin (Kaeding 1905, Grinnell 1928b, American Ornithologists' Union 1957, Friedmann et al. 1957, Wilbur 1987, Howell and Webb 1995). In Mexico, also resident from e. Sonora and w. Chihuahua, and from n.-central Coahuila south through much of Mexico to central Oaxaca west of Isthmus of Tehuantepec, with an isolated population in s. Tamaulipas (American Ornithologists' Union 1983, Howell and Webb 1995, Russell and Monson 1998).

Although resident throughout much of its U.S. and Mexican range (see Figure 1), Rufous-crowned Sparrow also has been observed in sw. and e.-central Kansas (Thompson and Ely 1992); in several counties of w. Arkansas (Franklin, Logan, Yell, and Perry Cos.; B. Shepherd pers. comm., James and Neal 1986), in Corpus Christi, TX (Phillips 1968e), and elsewhere outside of known range. Some of these records have occurred during breeding season and probably represent wandering individuals. Others may represent occasional movements (at least altitudinally) during severe winters to lower elevations or lower latitudes, as is suspected for northeastern populations (Cogswell 1968b, Brown et al. 1987a, Kaufman 1996b; see Migration, below). Isolated breeding locales in more northern areas of range (e.g., Utah, Colorado, Arkansas, Kansas, and Oklahoma) should be carefully surveyed during nonbreeding season to determine if this species is resident in all these areas, and all out-of-range sightings should be carefully documented.

Distribution Outside the Americas

Not recorded.

Overview of Migration

Generally resident throughout range; no true migratory movements recorded (Wolf 1977, J. P. Hubbard pers. comm.). The only verified record of a possible migrant or vagrant individual is a specimen collected 24 Oct 1965 along Gila River in Arizona (Hubbard 1975, Rea 1983a). This specimen was referred to ***A. r. eremoeca*** by A. R. Phillips, who felt that it most closely resembled birds found in Arbuckle Mtns. of Oklahoma (Rea 1983a). Limited movements to lower elevations have been reported during especially severe winters (Phillips et al. 1964a, Phillips 1968f, Hubbard 1975, Brown et al. 1987a, Wauer 1997). Occasional up-slope postbreeding movements to 1,220 m have been reported for populations along foothills of w. Sierra Nevada in California (Gaines Gaines 1977, Gaines 1988). Postbreeding wanderings may account for some unsubstantiated sightings of this species away from known breeding haunts-e.g., Las Vegas, NV (Alcorn 1988), Tucson, AZ (Phillips et al. 1964a, Monson and Phillips 1964), Fort Worth, TX (Pulich 1988b), and Corpus Christi, TX (Williams 1950b, Phillips 1968e, Oberholser 1974c). All future out-of-range sightings of this species should be carefully documented and specimens collected (where possible) to determine racial affinities of transient individuals.

Habitat in Breeding Range

Inhabits semiarid grassy shrublands and open woodlands on moderate to steep grassy and rocky hillsides and canyons from sea level to almost 3,000 m (Hubbard 1975, Wolf 1977, Howell and Webb 1995). Shrub or tree cover usually short (0.5–1.0 m), fairly open, consisting of mixed species, and interspersed with patches of grass, rock outcrops, or bare ground. Prefers younger stands with more open aspect to structure of shrub or tree cover, and avoids dense, continuous stands of single shrub or tree species (Shuford 1993a, Collins 1999b). Avoids mesquite-acacia (***Prosopis-Acacia***) scrub of extreme s. Texas and pure stands of creosote bush (***Larrea tridentata***) in w. Arizona (Root 1988b). Reported from open and stunted piñon-juniper (***Pinus-Juniperus***) and oak-juniper woodlands in central Texas and Arizona, and from open pine-oak woodlands in Arizona and Mexico (Phillips et al. 1964a, American Ornithologists' Union 1983, Root 1988b).

In California, generally inhabits moderate to steep, dry, rocky, south- or west-facing slopes vegetated with scattered scrub cover interspersed with patches of grasses and forbs or rock outcrops (Cogswell Cogswell 1968b, Cogswell 1968a, Garrett and Dunn 1981, Roberson and Tenney 1993, Shuford 1993a, Collins 1999b). Shows marked preference for coastal sage scrub dominated by California sagebrush (***Artemisia californica***; Grinnell and Miller 1944; see Figure 2), but also reported in coastal bluff scrub, low chaparral on serpentine outcrops, sparse chaparral recovering from a burn, and edges of tall chaparral (Cogswell Cogswell 1968b, Cogswell 1968a, Shuford 1993a, Collins 1999b). Generally absent from dense, unbroken stands of coastal sage scrub (Cogswell 1968b, Collins 1999b) and chaparral (Garrett and Dunn 1981, Roberson 1985, PWC). Elevation range in California 60–1,400 m (Grinnell and Miller 1944, Small 1994, Collins 1999b). In New York Mtns. of ne. San Bernardino Co., ***A. r. scottii*** inhabits steep, south-facing slopes (1,658–1,829 m) vegetated

"with open singleleaf pinyon (***Pinus monophylla***) woodland, scattered, small, rock outcrops, and open areas with patches of grass 30–100 cm in height" (Remsen and Cardiff 1979: 45).

Physical and vegetative characteristics of Rufous-crowned Sparrow habitat in nw. Santa Barbara Co., CA, have been quantified by Collins (Collins 1999b; see Table 1). Findings have confirmed that this species prefers moderate west-, south-, and east-facing slopes vegetated with low, fairly open cover of shrubs and grass. Most inhabited sites (89%) were on slopes of 15–60° (average 38.3°, ***n*** = 152). Almost half (44%) of sites were on moderate slopes (30–45°). Species recorded on slopes of all directions (7–360°); average slope direction 194°. Most sites (87%) were on west-, south-, and east-facing slopes. Rock outcrops were present at 61% of occupied sites. Shrub and grass were the dominant cover types, with shrubs averaging 50% cover and grass 29% (see Table 1). Shrub height low, averaging 0.83 m (range 0.15–2.0, ***n*** = 148). Dominant overstory shrubs associated with habitats used by this species included California sagebrush, purple sage (***Salvia leucophylla***), black sage (***S. mellifera***), California encelia (***Encelia californica***), coyote brush (***Baccharis pilularis***), mock heather (***Ericameria ericoides***), deer weed (***Lotus scoparius***), giant rye (***Leymus condensatus***), and buckwheat (***Eriogonum*** sp.).

Throughout the Southwest, ***A. r. scottii*** occupies open, grassy and rocky hillsides vegetated with sparse, irregularly spaced cover of desert scrub, chaparral, oak woodland, and pine-oak or piñon-oak-juniper woodlands from 792 to 2,438 m elevation (Marshall 1957c, Phillips et al. 1964a, Wolf 1977, Rosenberg and Stejskal 1995). As its old common name (Rock Sparrow) implies, ***A. r. eremoeca*** is generally associated with arid, boulder-strewn hillsides (152–2,377 m) vegetated with low, open scrub cover. In Oklahoma, ***A r. eremoeca*** is found along rims of mesas or among boulders at base of cliffs (Sutton Sutton 1934b, Sutton 1967b, Baumgartner and Baumgartner 1992). In Kansas, inhabits dry, brushy hillsides and ravines (Thompson and Ely 1992). In Colorado, found associated with pinyon-juniper woodland, scrub oak woodland, mixed shrubland, and shortgrass prairie (Jones 1998h). In Arkansas, frequents open oak and cedar (***Juniperus***) scrubland atop steep rocky cliffs (James and Neal 1986). In Texas, inhabits rocky, hilly, semiopen, arid scrub country vegetated with scattered cedars, oaks, sumacs (***Rhus***), brush piles, and grass clumps (Oberholser 1974c). At Big Bend National Park in w. Texas, species is more common in sotol (***Dasylirion*** sp.) grasslands than in piñon-juniper-oak woodlands (Wauer 1985).

In Mexico, inhabits variety of arid to semiarid, open to semiopen scrub habitats from sea level in Baja California to 2,195 m in Oaxaca (Wolf 1977, Howell and Webb 1995). In general, prefers grassy places broken by boulders, scattered trees, or patches of low bushes (Marshall 1957c). All habitats used by this species in Mexico share same basic set of physiographic (rocky, moderate to steep hillsides) and vegetative (low, sparse, open cover of shrubs with scattered patches of grass) parameters that characterize habitats used in U.S. Reported from rocky mountainsides and canyon walls vegetated with cover of grass, with various shrubs, sotol, agave (***Agave***), yucca (***Yucca***), cacti, pine, and oaks in Sonora (Russell and Monson 1998); pine, pine-oak, and oak-pine-juniper woodlands in Tamaulipas, Chihuahua, and n. Jalisco

(Martin et al. 1954, Stager 1954, Wolf 1977); low growth of oak bushes, manzanita (***Arctostaphylos***), and chaparral in Nuevo León (Burleigh and Lowery 1942, Wolf 1977); mesquite–prickly pear (***Prosopis-Opuntia***) association in Zacatecas (Webster and Orr 1954b); and open grassy areas on rocky hillsides (1,250–2,195 m) vegetated with arid subtropical scrub, scrub-oak, hard chaparral, and open, arid pine-oak forest in Oaxaca (Rowley 1966, Wolf 1977, Binford 1989a).

Habitat in Migration

Not migratory.

Habitat in the Overwintering Range

Same as breeding range, except for occasional limited postbreeding dispersal into nearby habitats not generally used for breeding. Few data during winter, however; species secretive. Postbreeding dispersal occasionally recorded. In Marin Co., CA, species shifts from sagebrush (***Artemisia*** sp.) in spring to poison oak (***Toxicodendron diversilobum***) and blackberry (***Rubus*** sp.) vines on grassy hillsides in late summer (Mailliard 1900b). In nw. Santa Barbara Co., CA, limited movement following breeding season into weedy grassland habitat down-slope from established coastal sage scrub breeding sites (Collins 1999b). It is not known how long individuals remain in these marginal habitats.

Historical Changes to the Distribution

Conversion of large areas of coastal sage scrub for urban and agricultural developments have made this species more locally restricted in various s. California counties (Los Angeles, Orange, Riverside, San Diego, and San Bernardino Cos.; Collins 1999b). Three island populations have disappeared during historic times. On Santa Catalina I., Los Angeles Co., CA, species not observed since 1863 (Grinnell and Miller 1944). On Todos Santos I., Baja California Norte, historically a common breeder (Grinnell 1928b), but not sighted during several visits in late 1970s (Wilbur 1987). Observed on Islas de San Martin in the early 1900s (Kaeding 1905, Grinnell 1928b, Friedmann et al. 1957), but no additional observations since substantiate this earlier sighting record.

Fossil History

No fossils reported for this species.

Systematics

Diet and Foraging

Introduction

Recommended Citation

Collins, P. W. (1999). Rufous-crowned Sparrow (*Aimophila ruficeps*), version 2.0. In The Birds of North America (A. F. Poole and F. B. Gill, Editors). Cornell Lab of Ornithology, Ithaca, NY, USA. https://doi.org/10.2173/bna.472

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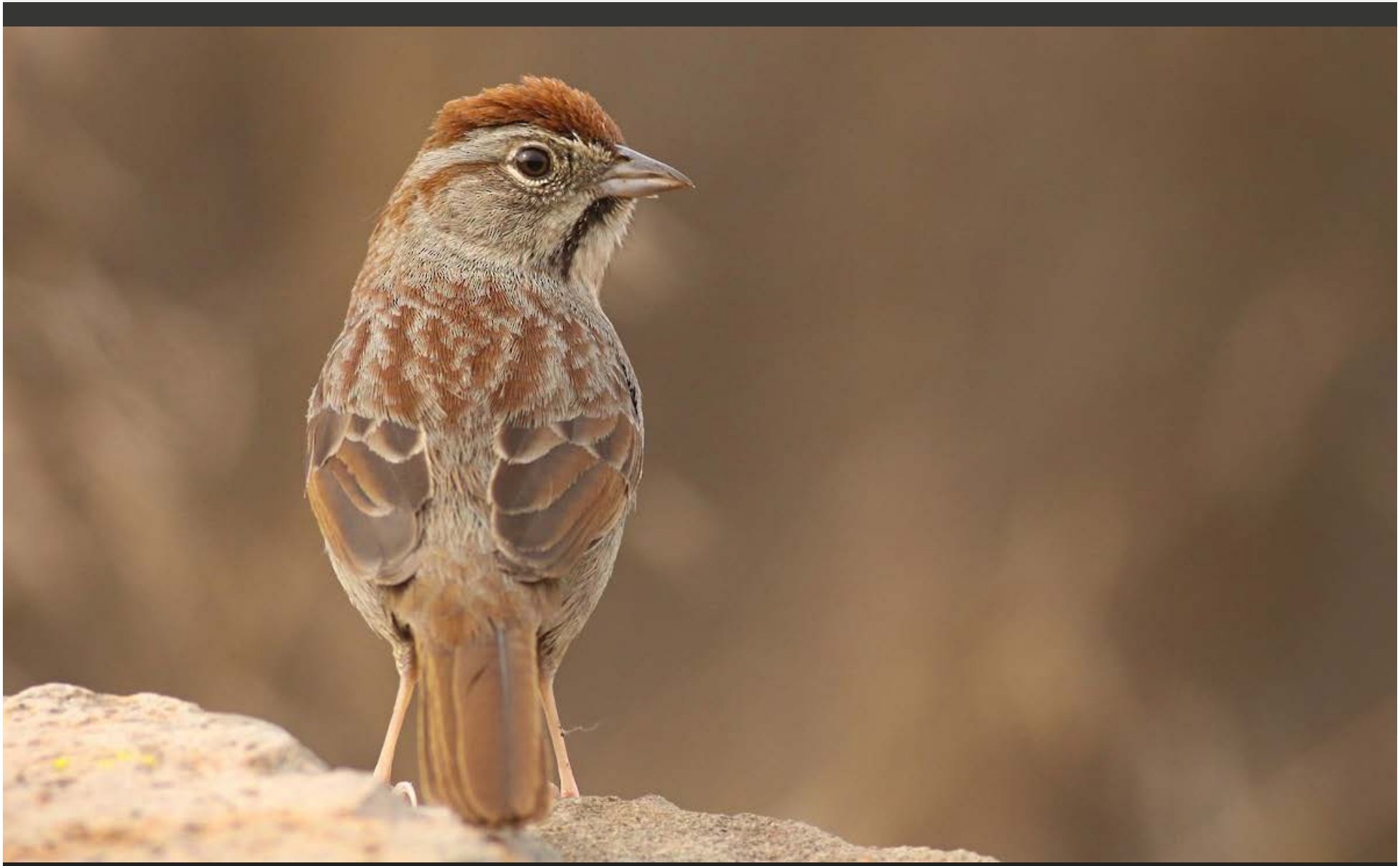

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California Towhee

Green-tailed Towhee

Rufous-crowned Sparrow

Aimophila ruficeps

Order:PASSERIFORMES
Family:PASSERELLIDAE

Sections

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Paul W. Collins

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Figure 1. Distribution of the Rufous-crowned Sparrow.
This species is resident throughout its range, but individuals may move to lower elevations or latitudes during severe winters.

Enlarge

Adult Rufous-crowned Sparrow, Arizona, November

captive adult; Sonoita, Santa Cruz Co., AZ. ; photographer Rick and Nora Bowers

Enlarge

Adult Rufous-crowned Sparrow, California, October
Ventura Co., CA; October; photographer Brian E. Small

Enlarge

One of the more widely distributed ***Aimophila*** sparrows, the Rufous-crowned Sparrow is a locally common resident of dry hillsides and canyons of the southwestern United States and Mexico. Its shy, secretive habits and predilection for inaccessible, rocky, brush-covered slopes make this species difficult to observe and study, although it has an unmistakable scolding, nasal call and males often sing from prominent perches.

For the most part, the Rufous-crowned Sparrow is a resident species. Although individuals in northern populations show slight range shifts during winter in response to severe weather, most populations apparently do not undertake regular migratory movements. Throughout its range, this sparrow is normally found on moderate to steep, dry, rocky slopes vegetated with a low cover of scattered shrubs which are interspersed with patches of grasses, forbs, and bare ground. Pairs generally nest on the ground, and most nests are carefully hidden in hollows among rocks or under clumps of grass or low bushes. Individuals seldom wander far from the protective cover of shrubs or grass, usually foraging for seeds and insects in vegetation close to the ground and in litter beneath shrubs.

In part because of this sparrow's cryptic appearance, inconspicuous song, stealthy behavior, and remote habitat, little is known about its life history. Gaps remain in our knowledge of its reproductive and population biology, physiology, food habits, ecology, behavior, and development of young. Most published accounts of this species are anecdotal. From California and Arizona, however, some detailed information is available on evolution, systematics, geographic variation, morphology, plumages and molts, vocalizations, singing behavior, predation, and habitat characteristics (Hubbard 1975, Wolf 1977, Groschupf 1983, Wimer 1995, Ellison 1998a, Collins 1999b).

Appearance

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Rufous-crowned Sparrow

Aimophila ruficeps

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Appearance

Adult Rufous-crowned Sparrow, Arizona, November

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Adult Rufous-crowned Sparrow, California, October

Ventura Co., CA; October; photographer Brian E. Small

Enlarge

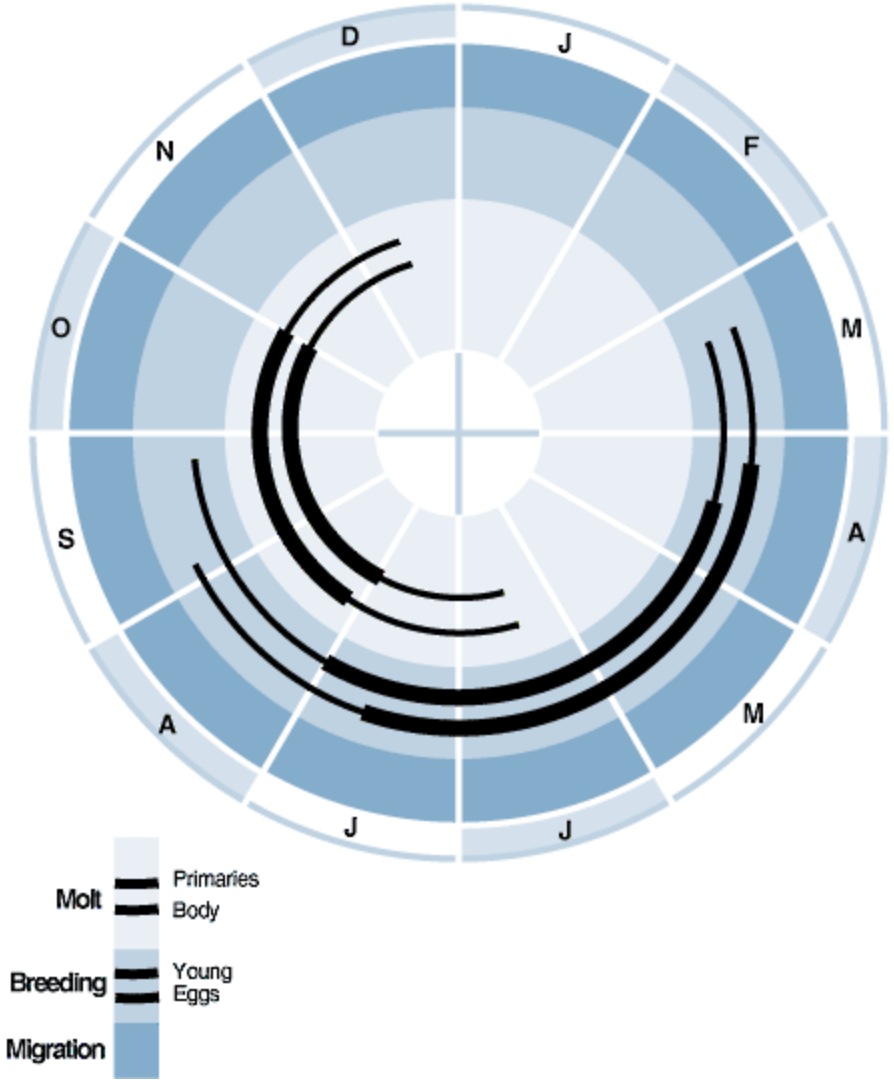

Figure 6. Annual cycle of breeding and molt of the Rufous-crowned Sparrow.

Thick lines show peak activity; thin lines, off-peak.

Enlarge

Medium-sized, round-tailed sparrow; overall length 13–15 cm; adult mass 15–23 g (Wolf 1977, Rising 1996a). Sexes similar in coloration, but males slightly larger than females (see Measurements, below). In adults, crown rusty; remaining upperparts gray-ish brown, often streaked with rusty; supercilium gray; ear coverts dark; distinct black malar stripe; prominent eye-ring; and unmarked grayish or buffy-gray underparts. Plumage of juveniles similar to that of adults, but crown dull brown and faintly streaked with darker brown; upperparts narrowly

streaked with dark brown; underparts pale buff, narrowly streaked with dusky brown on breast and flanks; and malar stripe indistinct.

Similar Species

May be confused with Rusty (***Aimophila rufescens***), Oaxaca (***A. notosticta***), Rufous-winged (***A. carpalis***), Chipping (***Spizella passerina***), American Tree (***S. arborea***), or immature White-crowned (***Zonotrichia leucophrys***) sparrows, all of which may occur seasonally in some areas with Rufous-crowned Sparrows. Adult Rufous-crowned Sparrow is distinguished from most of these other sparrows by its distinct rufous or chestnut crown, streaked gray along median line; dark malar stripe; narrow white eye-ring; lack of streaking or spots on breast; plain grayish to buffy gray-brown chest and flanks and whitish belly; and grayish-brown mantle, streaked with reddish brown to dark gray-brown. Rusty Sparrow (subspecies ***mcleodii***) is larger and bulkier and has proportionally larger bill; brown (not dusky) postocular stripe; eye-ring distinctly broken in front of eye; and duller upperparts with indistinct brown, not reddish, dorsal streaking (Howell and Webb 1995, Jones 1998a). Oaxaca Sparrow has black bill; bolder face pattern, with blackish lores that set off the white eye-ring; distinct black streaks on back; and darker crown, which has gray median stripe above bill (Howell and Webb 1995). Adult Rufous-winged Sparrows are distinguished by presence of distinctly bicolored bill with yellow-orange lower mandible; rufous lesser coverts (these often concealed); and gray-streaked rufous crown, with gray median stripe (Howell and Webb 1995). Juvenile Rufous-crowned Sparrows are distinguished from juvenile Rufous-winged Sparrows by back feathers with dusky streaks and no buffy fringes, and by tan to pale-brownish underparts (Pyle 1997c). American Tree and Chipping sparrows share the rufous crown but have a notched, not rounded, tail and white wing-bars, and they lack prominent black malar stripe; Chipping Sparrows also are slimmer and have white supercilium in breeding plumage; and American Tree Sparrows are smaller and have bicolored bill, dark breast-spot, and rufous patches at sides of breast (Byers et al. 1995a, Rising 1996a). Immature White-crowned Sparrows are larger, have proportionally larger bill, lack a dark malar stripe, and have distinctly striped head pattern with pale central crown-stripe.

Molts

Except where noted, the following descriptions of molts and plumages are for central California race ***A. r. ruficeps*** and are based on information in Ridgway 1901, Cogswell 1968b, and Wolf 1977 .

Hatchlings

Little information; altricial. Nestlings variously described as light drab-colored (Oberholser 1974c), or orange-skinned and partially covered with tufts of black natal down (Myers 1909a). No information on where down is located or on number and size of neossoptiles in each feather tract.

Juvenile Plumage

Prejuvenile (postnatal) molt occurs May–Oct (Pyle 1997c). No quantitative information on timing, sequence, or duration of this molt. Prejuvenile molt occurs while birds are still in nest and is completed soon after nestlings have fledged (see Breeding: fledgling stage, above).

Juvenile plumage similar to Definitive Basic plumage (see below), but buffier; crown dull brown, faintly streaked with darker brown; greater wing coverts margined with dull buffy (grayish in adults); rufous-tinged rectrices shorter and more tapered; upper breast and flanks narrowly streaked with dusky brown; malar stripe indistinct and brownish (not black; Ridgway 1901, Cogswell 1968b, Phillips 1968f, Wolf 1977, Byers et al. 1995a, Pyle 1997c). Juvenile plumage of ***A. r. obscura*** and ***A. r. canescens*** averages darker than that of ***A. r. ruficeps***, especially the breast streaks (Cogswell 1968b). Sexes similar.

Basic I Plumage

Prebasic I molt partial to incomplete; entire body plumage, 2–3 tertials, and all median and greater wing coverts are usually replaced, and sometimes S5 and/or S6 (in about 24% of birds) and 0 (about 35%) to all 12 (about 41%) of rectrices. This molt may be eccentric (about 18% of birds) and include innermost 4–5 secondaries, outermost 4–5 primaries, and (in about 12%) outermost 1–3 primary coverts (Pyle 1997c). Extent of this molt varies with timing and conditions of breeding season (Phillips 1968f, Wolf 1977, Pyle 1997c). This molt usually begins in midback and scapular regions and spreads both anteriorly and posteriorly along back while breast and sides are beginning to molt (Cogswell 1968b). New feathers begin to appear on forehead as breast feathers are replaced (Cogswell 1968b). Last areas on body to molt include “lower parts of the back and abdomen, the under tail coverts, and the sides of the head and neck” (Cogswell 1968b: 936). Molt of flight-feathers generally begins about the time body molt is nearing completion. In individuals replacing remiges, corresponding greater coverts are lost as secondaries begin to molt, and corresponding primary coverts are shed when primaries are replaced. Rectrices are replaced from innermost to outermost soon after wing-feather molt is completed (Cogswell 1968b, Wolf 1977). Remiges replaced include those feathers that tend to receive the most wear. ***A. r. sororia*** retains all its Juvenile primaries through Prebasic I molt more often than other races do (Wolf 1977).

Molt occurs Jun–Nov (Pyle 1997c), but timing of molt varies geographically. Generally begins 6–8 wk after young leave nest and often before Juvenile rectrices are fully grown (Cogswell 1968b). In central California, molt can begin in early Jun and not be completed until early Sep; exact timing depends on seasonal conditions and time of hatch (Cogswell 1968b, Wolf 1977). Birds born later in breeding season (Jun–Jul) begin this molt in late Aug or early Sep and do not complete it until Nov (Cogswell 1968b, Phillips 1968e). In general, northern populations along West Coast of North America and populations in eastern portion of Mexican plateau and Sierra Madre Oriental in Mexico begin molt earliest (Wolf 1977). Birds in sw. Mexico are among the last to begin molt; one bird from Oaxaca was in earliest stages of molt on 27 Oct (Wolf 1977).

Basic I plumage similar to Definitive Basic plumage (see below), but with variable number of Juvenile remiges, rectrices, and wing coverts retained (Phillips 1968f, Wolf 1977).

Definitive Basic Plumage

See Figure 6 . Definitive Prebasic molt complete; usually begins with innermost primaries and corresponding greater primary coverts. Primaries are replaced in order from innermost (P1) to outermost (P9). Molt of secondaries and greater coverts begins soon after primaries begin molting and is completed by the time the last primary is fully grown. Secondary replacement typically begins with S8, followed by either S9 or S7, then S1, and finally by S2–S5. Position of S6 in molt sequence varies: Replaced at same time as S1, shortly after S2, or last. Greater-coverts are dropped simultaneously in early stages of primary molt; median coverts are molted after greater coverts, and their molt is completed before end of primary replacement. Rectrix molt begins about same time as primary molt and progresses from outermost (R6) to innermost (R1). Rectrix molt is generally complete by the time the last primaries are partially re-grown. Body molt begins before or simultaneously with initiation of primary molt and is completed by the time flight-feathers are replaced and outer primaries are growing. "Body molt begins on the midback, scapulars, breast, throat, and sides and progresses as in the postjuvenile molt. The last areas to molt are the hind crown, lower back, upper tail coverts, midline of the abdomen, and the crissum" (Wolf 1977: 69).

Molt occurs after breeding season (Aug–Sep; Pyle 1997c). Birds in northern portions of range complete this molt in early Sep; populations in s. Baja California and s. Mexico may still be in late stages of molt in mid-Dec (Wolf 1977). In Arizona, ***A. r. scottii*** typically completes this molt by early Nov; in Oaxaca, Mexico, a female ***A. r. australis*** was in early stages of this molt on 23 Nov (Phillips 1968f). It is unknown what the duration of this molt is or if there is any additional racial or geographic variation in timing of this molt. The following description is based on birds from California and Arizona (Wolf 1977).

Forehead and crown rusty, with grayish margins on feathers in fresh plumages, sometimes with indistinct narrow grayish median crown-stripe; lores and small median forehead-stripe whitish; supercilium and eye-stripe gray; narrow white eye-ring; sides of head and neck buffy brown; back and scapulars buffy grayish brown (to darkish gray), broadly streaked with reddish brown but usually lacking distinct dusky shaft-streaks; rump and uppertail-coverts brown, uppertail-coverts tipped with grayish; throat whitish, with thin, black malar stripe; belly whitish; breast and sides grayish brown and flanks buffy brown; wings dark brown, all feathers edged on outer web with reddish brown; all wing coverts dark brown, edged on outer web with grayish; tail dark cinnamon brown to deep wood brown, with faint darker-brown cross-barring on central rectrices (Cogswell 1968b, Wolf 1977). Sexes similar. For subspecific differences in Definitive Basic plumage, see Systematics: geographic variation, and Systematics: subspecies, above.

According to Wolf (Wolf 1977), there is no prenuptial (Prealternate) molt in Rufous-crowned Sparrow. However, Hubbard (Hubbard 1975)

reported finding spring birds with scattered pin-feathers on throat and chin, and a few spring specimens from Jalisco, Mexico, in fairly fresh plumage, suggesting that body feathers had molted recently. These fresh-plumaged birds may be the result of a protracted Prebasic I molt that continues into first breeding season rather than a Prealternate molt. Significance of these fresh-plumaged spring specimens is not known, but is perhaps atypical of the plumage cycle for the species as a whole. Studies are needed to confirm whether this molt pattern is the result of a protracted Prebasic I molt or represents a limited Prealternate molt as Pyle (1977) suggested.

Bare Parts

Bill And Gape

Bill described as pale grayish white in immatures (Simmons 1925), grading in adults toward (1) dark brown or dark bluish slate (***A. r. eremoeca***; Oberholser 1974c), (2) dusky brown, becoming pale yellow on cutting edge (Rising 1996a), or (3) flesh gray (Howell and Webb 1995). Lower mandible slightly darker brown than paler upper mandible (Oberholser 1974c). No information on color of mouth-lining, commissure, or rictus.

Iris

Described as brown (Oberholser 1974c) or tan (Rising 1996a).

Legs And Feet

Described as light yellowish brown or pale flesh color (***A. r. eremoeca***; Oberholser 1974c), dusky flesh (Howell and Webb 1995), or pale brownish to dull yellow (Rising 1996a).

Linear Measurements

For discussion of infraspecific and clinal variation in linear measurements, see Systematics: geographic variation, above. Linear measurements summarized for Rufous-crowned Sparrow populations in California (Dawson 1923, Collins 1999b), Texas (Oberholser 1974c), New Mexico (Bailey 1928b), and throughout sw. U.S. and Mexico (Hubbard 1975). Linear measurement data for 5 California populations are summarized in the Appendix 1 . Males of races ***ruficeps*** and ***canescens*** have significantly longer wing chords ($p < 0.01$) than females; ***canescens*** males have significantly longer tails, and ***ruficeps*** males have significantly deeper bills, than respective females (Collins 1999b).

Wolf (Wolf 1977) summarized the following linear measurements-mean ± SD (range, ***n***), in mm-of males and females for combined Rufous-crowned Sparrow sample: wing chord length-males 62.9 ± 2.70 (57.5-70.1, 55), females 59.9 ± 2.82 (55.6-67.2, 48); tail length-males 67.7 ± 3.42 (62.4-78.6, 48), females 64.8 ± 3.32 (56.6-72.5, 38); tarsus length-males 20.7 ± 0.81 (18.5-22.5, 60), females 20.6 ± 0.88 (18.5-22.3, 58); hallux length-males 10.5 ± 0.51 (9.4-11.6, 60), females 10.4 ± 0.53 (9.5-11.6, 55); middle-toe length-males 14.4 ± 0.60 (13.2-16.0, 59), females 14.0 ± 0.74 (12.2-15.5, 56); bill (culmen) length-males 8.1 ± 0.52 (6.7-9.4, 60), females 8.0 ± 0.60 (6.7-9.3, 57); bill

width-males 4.0 ± 0.33 (3.4-5.0, 60), females 4.0 ± 0.36 (3.4-4.8, 57); and bill depth-males 5.2 ± 0.30 (4.5-5.7, 58), females 5.1 ± 0.32 (4.5-5.7, 55). In California populations, males average larger than females in 4 of 9 linear measurements tested; only wing length, tail length, and bill depth are significantly (p < 0.01) different (see Appendix 1; Collins 1999b).

Mass

See Appendix 1 . Few data. From data on specimen tags, Collins (Collins 1999b) summarized mass of populations in California and determined that females averaged heavier than males in 2 of the 5 samples (see Appendix 1). For combined Rufous-crowned Sparrow sample, Dunning (Dunning 1993b, based on Wolf 1977) reported the following mean masses: for males, 19.3 g ± 1.48 SD (range 16.0-23.3, n = 59); for females, 18.3 g ± 1.31 (15.2-20.3, 39). Kidney weight 264 mg (Johnson 1968a).

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California Towhee

Green-tailed Towhee

Rufous-crowned Sparrow

Aimophila ruficeps

Order:PASSERIFORMES
Family:PASSERELLIDAE

Sections

Systematics

Rufous-crowned Sparrow has been placed in several different genera depending on past nomenclatural and taxonomic conventions and decisions: e.g., ***Ammodramus*** (Cassin 1852b), ***Zonotrichia*** (Sclater 1867b), ***Peucaea*** (Baird 1858a, Brewster 1879c, Brown 1882b, Scott 1885b, Sennett 1888, Nelson 1897b), and ***Aimophila*** (Ridgway Ridgway 1898a, Ridgway 1899b, Ridgway 1901, Paynter 1970b), where it is currently assigned (American Ornithologists' Union 1998a).

Geographic Variation

The most extensive review of geographic variation is provided by Hubbard (Hubbard 1975), who compared specimens throughout most of the interior North American range from Arizona to Oklahoma and southward to Oaxaca, Mexico; populations in California and Baja California were not studied. Geographic variation of coastal-California populations west of Central Valley and deserts and north of Baja California was examined by Collins (Collins 1999b). No comprehensive evaluation of morphological and genetic variation exists.

Clinal variation in linear body measurements from coastal mainland California (see Appendix 1). From south to north, bill size increases and tail and wing chord decrease. Of mainland coastal-California populations, birds from San Diego and Imperial Cos. have longest tails and wings but smallest bills; disjunct populations on Santa Cruz and Anacapa Is. (subspecies ***obscura***) average largest in body weight and all bill

measurements (length, width, and depth), and largest or second largest in wing, tail, and tarsus lengths (Collins 1999b). Clinal trends in linear measurements outside of California are not as clear-cut; wing and tail lengths exhibit variation that is clinal in nature, while bill size shows more of a mosaic pattern of geographic variation (Hubbard 1975). In general, populations with the longest wings and tails occur from Arizona, New Mexico, and Oklahoma (subspecies ***scottii*** and ***eremoeca***) south into s.-central Mexico (subspecies ***boucardi***, ***duponti***, and westernmost ***pallidisima***), while birds with the shortest wings and tails occur in w.-central Mexico (subspecies ***suttoni*** and ***phillipsi***) and s. Mexico (subspecies ***laybournae***, ***australis***, and ***extima***; Hubbard 1975). Differences recorded in bill measurements among populations are minor; birds from Oklahoma and Texas (subspecies ***eremoeca***) south into ne. Mexico (subspecies ***pallidisima***) have the longest bills, and birds from Oklahoma through e. and s. Mexico (subspecies ***eremoeca***, ***pallidisima***, ***boucardi***, ***duponti***, ***laybournae***, ***extima***, ***fusca***, ***suttoni***, and ***australis***) have the deepest and widest bills (Hubbard 1975).

Plumage coloration shows several broad ecogeographic patterns. First, isolated populations like those on islands (e.g., ***obscura*** on Santa Cruz and Anacapa Is. and ***sanctorum*** on Todos Santos I.) or in islandlike settings, such as mountains in Cape District of s. Baja California (***sororia***), tend to be darker and less reddish in overall color than nearest populations (PWC). Second, geographically restricted mainland races in Mexico, such as birds from se. Sinaloa (***phillipsi***) and Valley of Mexico in the Federal District (***duponti***), are noticeably darker, or redder (***australis*** in central Oaxaca) than adjacent races (Hubbard 1975). Finally, clinal trends in plumage characters are evident in mainland populations. In California, overall coloration is lightest in northern populations (***ruficeps***) and darkest in the more southern populations (***canescens***; Collins 1999b). Birds from Oklahoma, Texas, and Tamaulipas, Mexico (***eremoeca***), have grayer, less reddish or brown backs, and browner crowns than do birds from Arizona, New Mexico, and n. Mexico (***scottii***; Hubbard 1975, Rising 1996a). Darkest birds are found in se. Sinaloa (***phillipsi***), Valley of Mexico in the Federal District (***duponti***), and mountains of e. Jalisco south through n. Michoacán (***fusca***); reddest birds occur in central Oaxaca (***australis***; Hubbard 1975). Extent and color of dorsal streaking on back and crown and ventral coloration show no readily apparent broad geographic patterning (Hubbard 1975, PWC).

Subspecies

Seventeen subspecies are currently recognized, on basis of Paynter 1970b, as modified by Hubbard (Hubbard 1975). For review of earliest-named subspecies, see Ridgway 1901. Five subspecies occur in U.S. (***canescens***, ***eremoeca***, ***obscura***, ***scottii***, and ***ruficeps***), 12 in Mexico (***australis***, ***boucardi***, ***duponti***, ***extima***, ***fusca***, ***laybournae***, ***pallidisima***, ***phillipsi***, ***sanctorum***, ***simulans***, ***sororia***, ***suttoni***). Taxonomic status of these races is in need of comprehensive study of morphological and biochemical characters.

Subspecies in U.S. can be arranged into 2 broad groups: (1) Pacific coastal group (***canescens***, ***obscura***, and ***ruficeps***), which are small and have reddish upperparts; (2) southwest desert group (***scottii*** and ***eremoeca***), which are large and have brownish upperparts (Pyle 1997c).

See Pyle 1997c, Collins 1999b and Appendix 1 for measurements of the Pacific coastal subspecies and Hubbard 1975 and Pyle 1997c for measurements of the Southwest desert and Mexican subspecies.

Pacific Coastal Group

A. r. ruficeps: Resident in central California in Coast and w. Transverse Ranges, Marysville Buttes, and western slopes of Sierra Nevada (American Ornithologists' Union 1957, Paynter 1970b). Small overall size, small bill, upperparts chestnut with medium-dark buff streaking and underparts creamy brown (Pyle 1997c). Similar to ***obscura*** (see below), except smaller (wing chord and bill), overall lighter in color, and upperparts chestnut with medium to dark-buff (not gray) streaking (Cogswell 1968b, Pyle 1997c, Collins 1999b).

A. r. obscura: Resident on Santa Cruz and Anacapa Is., formerly on Santa Catalina I. (Grinnell and Miller 1944, American Ornithologists' Union 1957). Distinguished from subspecies on adjacent mainland (nominate ***ruficeps*** and ***canescens***) by larger overall size (bill, wing chord, and body weight), darker and less rufescent color overall, darker (buffy-gray), less rusty dorsal streaking, and pale brownish underparts (Dickey and Van Rossem 1923a, Pyle 1997c, Collins 1999b).

A. r. canescens: Resident in sw. California on coastal slopes of Transverse and Peninsular Ranges from nw. Los Angeles Co. south into nw. Baja California Norte and on San Martín I. (Grinnell 1928b, American Ornithologists' Union 1957, Collins 1999b). Similar to nominate ***ruficeps***, except wing and tail longer, bill smaller, underparts brown with grayish wash, and upperparts rufous-brown with grayish-buff streaking (Todd 1922, Pyle 1997c, Collins 1999b).

Southwest Desert Group

Subspecies in this group are larger and have brownish upperparts (Pyle 1997c). *A. r. scottii*: Resident in isolated desert mountain ranges of e. California, east through s. Nevada, sw. Utah, n. and e. Arizona, and sw. New Mexico, south to s.-central Arizona and ne. Sonora and nw. Chihuahua, Mexico (American Ornithologists' Union 1957, Phillips 1968f, Hubbard 1975, Small 1994). Relatively large, with medium-sized bill; upperparts gray, with more extensive reddish-brown wash; and underparts pale brown, with gray tinge (Hubbard 1975, Pyle 1997c). Intergrades with ***eremoeca*** (see below) in se. New Mexico and w. Texas (once considered a separate subspecies: ***tenuirostra***; Hubbard 1975). Whereas Pyle (Pyle 1997c) refers specimens in se. Colorado and w. Oklahoma to ***scottii***, others (Paynter 1970b, Hubbard 1975) ascribe these populations to ***eremoeca*** (see below).

A. r. eremoeca: Inhabits s. Great Plains from se. Colorado (Otero, Bent, Las Animas and Baca Cos.) and central Oklahoma (Arnett, Arbuckle Mtns. in Murray Co.) south through e. New Mexico and w. and central Texas to n. Chihuahua and central Coahuila, Mexico (American Ornithologists' Union 1957, Phillips 1968e, Hubbard 1975, Jones 1998h). Populations in sw. and central Kansas (Thompson and Ely 1992) and w.-central Arkansas south of Arkansas River (James and Neal 1986) are probably this race. Previous records of migrants assigned to this race from e. Mexico (Hidalgo, Puebla, Tamaulipas, and n. Veracruz; Miller et al. 1957) are apparently in error (Hubbard 1975). Although

superficially similar to ***scottii*** in overall size (culmen and wing are larger, tail and tarsus shorter), ***eremoeca*** differs in having upperparts that are more olive (or brownish-gray), with sparse, brown (less reddish) streak-ing; underparts pale brown or gray; and rufous crown paler and edged with gray (Hubbard 1975, Rising 1996a, Pyle 1997c).

Mexican Subspecies

A brief range statement is given below for the remaining subspecies, found only in Mexico (based on Paynter 1970b, Hubbard 1975, and other sources as cited). For a detailed description of morphological characteristics that distinguish these races, see Hubbard 1975 .

A. r. sanctorum: Todos Santos Is. off nw. Baja California (Van Rossem 1947b).

A. r. sororia: Sierra de la Laguna Mtns. in Cape District of Baja California Sur (Ridgway 1898a).

A. r. simulans: Nw. Mexico from e.-central Sonora and sw. Chihuahua south through ne. Sinaloa, w. Durango, sw. Zacatecas, and w. Guanajuato to ne. Jalisco.

A. r. pallidisima: S. Coahuila south to n. San Luis Potosí and east through Sierra Madre Oriental to Nuevo León and Tamaulipas (Phillips 1966a).

A. r. phillipsi: Barranca country of se. Sinaloa and western slopes of Sierra Madre Occidental.

A. r. suttoni: E. Nayarit south into n. and w. Jalisco and s. Colima (Schaldach 1963).

A. r. boucardi: Mexican plateau from s. San Luis Potosí, southwest through Guanajuato, and Querétaro to s. Michoacán, and southeast through Hidalgo, Tlaxcala, nw.-central Veracruz, and n. Puebla (Miller et al. 1957).

A. r. fusca: Southwestern border of Mexican plateau and bordering mountains from e. Jalisco south through n. Colima and n. Michoacán.

A. r. duponti: Valley of Mexico in the Federal District and adjacent México.

A. r. laybournae: W.-central Veracruz west through se. Puebla into n.-central Oaxaca.

A. r. extima: Guerrero and adjacent Puebla south through s. Oaxaca.

A. r. australis: Mountains of central Oaxaca (up to 2,134 m) that surround Oaxaca Valley (Binford 1989a).

Related Species

Although the genus Aimophila is a heterogeneous assemblage of grassland, thorn-scrub, and pine-oak (***Pinus-Quercus***) woodland sparrows that has been considered an unnatural group (Wolf 1977), recent phylogenetic analysis using morphological, behavioral, and biochemical characters suggests that it is monophyletic (Patten and Fugate 1998). Relationships among ***Aimophila*** species remain poorly understood. Nevertheless, 3 species-groups (clades) within ***Aimophila*** were defined by Wolf (Wolf 1977) and adopted by Am. Ornithol. Union (American Ornithologists' Union 1998a), with Rufous-crowned, Rusty, and Oaxaca sparrows forming one complex on basis of

similarities in primary songs, similar chatter calls (probably not derived from a primary song), and similar plumage patterns with rusty head-stripes. Rufous-crowned Sparrow probably evolved and radiated on Mexican plateau, expanding its range both north and south during interglacial times (Wolf 1977).

Appearance

Distribution, Migration, and Habitat

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California Towhee

Green-tailed Towhee

Rufous-crowned Sparrow

Aimophila ruficeps

Order:PASSERIFORMES
Family:PASSERELLIDAE

Distribution, Migration, and Habitat

Figure 1. Distribution of the Rufous-crowned Sparrow.

Enlarge

This species is resident throughout its range, but individuals may move to lower elevations or latitudes during severe winters.


Arctic Ocean
Greenland
Iceland
Canada
United States
Mexico
North Pacific Ocean
North Atlantic Ocean
Venezuela
Colombia

eBird range map for Rufous-crowned Sparrow

Enlarge

Generated from eBird observations (Year-Round, 1900-present)

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Figure 2. Typical breeding habitat of Rufous-crowned Sparrow

Enlarge

Coastal sage scrub, typical breeding habitat of Rufous-crowned Sparrow in nw. Santa Barbara Co., CA. Shown is a slope vegetated with open coastal sage scrub (California sagebrush [Artemisia californica] dominant). Photo by P. W. Collins.

Distribution in the Americas

Occurs throughout much of sw. U.S. and Mexico, but range is often discontinuous, with numerous small, isolated populations (Figure 1).

Resident in California from Mendocino and Glenn Cos. south through coastal slopes, foothills, and interior valleys of the Coast, Transverse and Peninsular ranges into nw. Baja California Norte, from Shasta Co. south through western foothills of Cascades and Sierra Nevada to sw. Kern Co., in Coxcomb Mtns. of Joshua Tree National Monument, in Granite, Providence, and New York Mtns. of e. San Bernardino Co., at Marysville Buttes, Sutter Co., and on Santa Cruz, and Anacapa Is. (Grinnell and Miller 1944, Remsen and Cardiff 1979, Garrett and Dunn 1981, Small 1994). East of California, resident in Washington Co. (Zion Canyon and Virgin) in extreme sw. Utah (Wauer Wauer 1965b, Wauer 1967b, Wauer 1997, Hayward et al. 1976a, Behle et al. 1985); nw. through se. Arizona (Phillips et al. 1964a, Arizona Breeding Bird Atlas [BBA] unpubl.), western portions of s. New Mexico through ne. New Mexico (Ligon 1961, Hubbard 1978c) to se. Colorado (Otero, Bent, Las Animas, and Baca Cos.; Andrews and Righter 1992, Jones 1998h), and Cimarron Co., OK (Baumgartner and Baumgartner 1992); throughout much of Texas north of 28°N and west of 97°W (Oberholser 1974c, Texas BBA unpubl.), throughout central Oklahoma (Nice 1931b, Sutton 1967b, Johnsgard 1979a, Wood and Schnell 1984, Baumgartner and Baumgartner 1992), and in Logan Co., AR (Magazine Mtn.; James and Neal 1986). Observations in Nevada at Lehman Caves in Great Basin National Park, White Pine Co., and in Spring Mtns. west of Las Vegas, Clark Co. (Alcorn 1988), suggest that this species' status in Nevada remains uncertain.

In Baja California, resident in northwestern portion of Baja California Norte north of latitude 30°, in Sierra de la Laguna Mtns. of Baja California Sur, and on Isla de Todos Santos and formerly Isla de San Martin (Kaeding 1905, Grinnell 1928b, American Ornithologists' Union 1957, Friedmann et al. 1957, Wilbur 1987, Howell and Webb 1995). In Mexico, also resident from e. Sonora and w. Chihuahua, and from n.-central Coahuila south through much of Mexico to central Oaxaca west of Isthmus of Tehuantepec, with an isolated population in s. Tamaulipas (American Ornithologists' Union 1983, Howell and Webb 1995, Russell and Monson 1998).

Although resident throughout much of its U.S. and Mexican range (see Figure 1), Rufous-crowned Sparrow also has been observed in sw. and e.-central Kansas (Thompson and Ely 1992); in several counties of w. Arkansas (Franklin, Logan, Yell, and Perry Cos.; B. Shepherd pers. comm., James and Neal 1986), in Corpus Christi, TX (Phillips 1968e), and elsewhere outside of known range. Some of these records have occurred during breeding season and probably represent wandering individuals. Others may represent occasional movements (at least altitudinally) during severe winters to lower elevations or lower latitudes, as is suspected for northeastern populations (Cogswell 1968b, Brown et al. 1987a, Kaufman 1996b; see Migration, below). Isolated breeding locales in more northern areas of range (e.g., Utah, Colorado, Arkansas, Kansas, and Oklahoma) should be carefully surveyed during nonbreeding season to determine if this species is resident in all these areas, and all out-of-range sightings should be carefully documented.

Distribution Outside the Americas

Not recorded.

Overview of Migration

Generally resident throughout range; no true migratory movements recorded (Wolf 1977, J. P. Hubbard pers. comm.). The only verified record of a possible migrant or vagrant individual is a specimen collected 24 Oct 1965 along Gila River in Arizona (Hubbard 1975, Rea 1983a). This specimen was referred to ***A. r. eremoeca*** by A. R. Phillips, who felt that it most closely resembled birds found in Arbuckle Mtns. of Oklahoma (Rea 1983a). Limited movements to lower elevations have been reported during especially severe winters (Phillips et al. 1964a, Phillips 1968f, Hubbard 1975, Brown et al. 1987a, Wauer 1997). Occasional up-slope postbreeding movements to 1,220 m have been reported for populations along foothills of w. Sierra Nevada in California (Gaines Gaines 1977, Gaines 1988). Postbreeding wanderings may account for some unsubstantiated sightings of this species away from known breeding haunts-e.g., Las Vegas, NV (Alcorn 1988), Tucson, AZ (Phillips et al. 1964a, Monson and Phillips 1964), Fort Worth, TX (Pulich 1988b), and Corpus Christi, TX (Williams 1950b, Phillips 1968e, Oberholser 1974c). All future out-of-range sightings of this species should be carefully documented and specimens collected (where possible) to determine racial affinities of transient individuals.

Habitat in Breeding Range

Inhabits semiarid grassy shrublands and open woodlands on moderate to steep grassy and rocky hillsides and canyons from sea level to almost 3,000 m (Hubbard 1975, Wolf 1977, Howell and Webb 1995). Shrub or tree cover usually short (0.5–1.0 m), fairly open, consisting of mixed species, and interspersed with patches of grass, rock outcrops, or bare ground. Prefers younger stands with more open aspect to structure of shrub or tree cover, and avoids dense, continuous stands of single shrub or tree species (Shuford 1993a, Collins 1999b). Avoids mesquite-acacia (***Prosopis-Acacia***) scrub of extreme s. Texas and pure stands of creosote bush (***Larrea tridentata***) in w. Arizona (Root 1988b). Reported from open and stunted piñon-juniper (***Pinus-Juniperus***) and oak-juniper woodlands in central Texas and Arizona, and from open pine-oak woodlands in Arizona and Mexico (Phillips et al. 1964a, American Ornithologists' Union 1983, Root 1988b).

In California, generally inhabits moderate to steep, dry, rocky, south- or west-facing slopes vegetated with scattered scrub cover interspersed with patches of grasses and forbs or rock outcrops (Cogswell Cogswell 1968b, Cogswell 1968a, Garrett and Dunn 1981, Roberson and Tenney 1993, Shuford 1993a, Collins 1999b). Shows marked preference for coastal sage scrub dominated by California sagebrush (***Artemisia californica***; Grinnell and Miller 1944; see Figure 2), but also reported in coastal bluff scrub, low chaparral on serpentine outcrops, sparse chaparral recovering from a burn, and edges of tall chaparral (Cogswell Cogswell 1968b, Cogswell 1968a, Shuford 1993a, Collins 1999b). Generally absent from dense, unbroken stands of coastal sage scrub (Cogswell 1968b, Collins 1999b) and chaparral (Garrett and Dunn 1981, Roberson 1985, PWC). Elevation range in California 60–1,400 m (Grinnell and Miller 1944, Small 1994, Collins 1999b). In New York Mtns. of ne. San Bernardino Co., ***A. r. scottii*** inhabits steep, south-facing slopes (1,658–1,829 m) vegetated

"with open singleleaf pinyon (***Pinus monophylla***) woodland, scattered, small, rock outcrops, and open areas with patches of grass 30–100 cm in height" (Remsen and Cardiff 1979: 45).

Physical and vegetative characteristics of Rufous-crowned Sparrow habitat in nw. Santa Barbara Co., CA, have been quantified by Collins (Collins 1999b; see Table 1). Findings have confirmed that this species prefers moderate west-, south-, and east-facing slopes vegetated with low, fairly open cover of shrubs and grass. Most inhabited sites (89%) were on slopes of 15–60° (average 38.3°, ***n*** = 152). Almost half (44%) of sites were on moderate slopes (30–45°). Species recorded on slopes of all directions (7–360°); average slope direction 194°. Most sites (87%) were on west-, south-, and east-facing slopes. Rock outcrops were present at 61% of occupied sites. Shrub and grass were the dominant cover types, with shrubs averaging 50% cover and grass 29% (see Table 1). Shrub height low, averaging 0.83 m (range 0.15–2.0, ***n*** = 148). Dominant overstory shrubs associated with habitats used by this species included California sagebrush, purple sage (***Salvia leucophylla***), black sage (***S. mellifera***), California encelia (***Encelia californica***), coyote brush (***Baccharis pilularis***), mock heather (***Ericameria ericoides***), deer weed (***Lotus scoparius***), giant rye (***Leymus condensatus***), and buckwheat (***Eriogonum*** sp.).

Throughout the Southwest, ***A. r. scottii*** occupies open, grassy and rocky hillsides vegetated with sparse, irregularly spaced cover of desert scrub, chaparral, oak woodland, and pine-oak or piñon-oak-juniper woodlands from 792 to 2,438 m elevation (Marshall 1957c, Phillips et al. 1964a, Wolf 1977, Rosenberg and Stejskal 1995). As its old common name (Rock Sparrow) implies, ***A. r. eremoeca*** is generally associated with arid, boulder-strewn hillsides (152–2,377 m) vegetated with low, open scrub cover. In Oklahoma, ***A r. eremoeca*** is found along rims of mesas or among boulders at base of cliffs (Sutton Sutton 1934b, Sutton 1967b, Baumgartner and Baumgartner 1992). In Kansas, inhabits dry, brushy hillsides and ravines (Thompson and Ely 1992). In Colorado, found associated with pinyon-juniper woodland, scrub oak woodland, mixed shrubland, and shortgrass prairie (Jones 1998h). In Arkansas, frequents open oak and cedar (***Juniperus***) scrubland atop steep rocky cliffs (James and Neal 1986). In Texas, inhabits rocky, hilly, semiopen, arid scrub country vegetated with scattered cedars, oaks, sumacs (***Rhus***), brush piles, and grass clumps (Oberholser 1974c). At Big Bend National Park in w. Texas, species is more common in sotol (***Dasylirion*** sp.) grasslands than in piñon-juniper-oak woodlands (Wauer 1985).

In Mexico, inhabits variety of arid to semiarid, open to semiopen scrub habitats from sea level in Baja California to 2,195 m in Oaxaca (Wolf 1977, Howell and Webb 1995). In general, prefers grassy places broken by boulders, scattered trees, or patches of low bushes (Marshall 1957c). All habitats used by this species in Mexico share same basic set of physiographic (rocky, moderate to steep hillsides) and vegetative (low, sparse, open cover of shrubs with scattered patches of grass) parameters that characterize habitats used in U.S. Reported from rocky mountainsides and canyon walls vegetated with cover of grass, with various shrubs, sotol, agave (***Agave***), yucca (***Yucca***), cacti, pine, and oaks in Sonora (Russell and Monson 1998); pine, pine-oak, and oak-pine-juniper woodlands in Tamaulipas, Chihuahua, and n. Jalisco

(Martin et al. 1954, Stager 1954, Wolf 1977); low growth of oak bushes, manzanita (***Arctostaphylos***), and chaparral in Nuevo León (Burleigh and Lowery 1942, Wolf 1977); mesquite–prickly pear (***Prosopis-Opuntia***) association in Zacatecas (Webster and Orr 1954b); and open grassy areas on rocky hillsides (1,250–2,195 m) vegetated with arid subtropical scrub, scrub-oak, hard chaparral, and open, arid pine-oak forest in Oaxaca (Rowley 1966, Wolf 1977, Binford 1989a).

Habitat in Migration

Not migratory.

Habitat in the Overwintering Range

Same as breeding range, except for occasional limited postbreeding dispersal into nearby habitats not generally used for breeding. Few data during winter, however; species secretive. Postbreeding dispersal occasionally recorded. In Marin Co., CA, species shifts from sagebrush (***Artemisia*** sp.) in spring to poison oak (***Toxicodendron diversilobum***) and blackberry (***Rubus*** sp.) vines on grassy hillsides in late summer (Mailliard 1900b). In nw. Santa Barbara Co., CA, limited movement following breeding season into weedy grassland habitat down-slope from established coastal sage scrub breeding sites (Collins 1999b). It is not known how long individuals remain in these marginal habitats.

Historical Changes to the Distribution

Conversion of large areas of coastal sage scrub for urban and agricultural developments have made this species more locally restricted in various s. California counties (Los Angeles, Orange, Riverside, San Diego, and San Bernardino Cos.; Collins 1999b). Three island populations have disappeared during historic times. On Santa Catalina I., Los Angeles Co., CA, species not observed since 1863 (Grinnell and Miller 1944). On Todos Santos I., Baja California Norte, historically a common breeder (Grinnell 1928b), but not sighted during several visits in late 1970s (Wilbur 1987). Observed on Islas de San Martin in the early 1900s (Kaeding 1905, Grinnell 1928b, Friedmann et al. 1957), but no additional observations since substantiate this earlier sighting record.

Fossil History

No fossils reported for this species.

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Rufous-crowned Sparrow

Aimophila ruficeps

Order:PASSERIFORMES
Family:PASSERELLIDAE

Sections

Diet and Foraging

Feeding

Main Foods Taken

Diet poorly known; appears to vary with season, locality, and availability (Phillips 1968f). Eats primarily grass and forb seeds, other tender grass stems and plant shoots, and insects; eats more insects during spring and summer, more seeds during winter (Wolf 1977).

Microhabitat For Foraging

Few data; difficult to observe foraging habits due to their skittishness, intolerance of disturbance, and habit of foraging under the protective cover of vegetation. Generally forages on or very near the ground while walking or hopping under shrubs or within dense grass or herbaceous ground cover; occasionally feeds in weeds and low bushes, rarely in open areas (Grinnell and Miller 1944, Cogswell 1968b, Wolf 1977). Less commonly, forages in foliage and on branches of taller woody vegetation, such as shrubs and short oaks (Cogswell 1968b, Wolf 1977). In s.-central Arizona during winter, usually forages within 2-4 m of brushy cover, to which it retreats when alarmed (Pulliam and Mills 1977).

Food Capture And Consumption

During breeding season, gleans insects from branches and outer foliage of low shrubs, grasses, and low herbaceous plants (PWC). Forages

throughout day, but no data regarding preferred time of day for foraging or length of time spent during or between foraging bouts. When foraging on the ground, obtains most food directly from ground surface by pecking, only rarely by scratching in ground litter (Marshall 1957c, PWC). Occasionally obtains seeds and insects from grasses and lowest branches of shrubs and herbaceous plants by hopping from the ground (PWC). Known to forage in pairs during breeding season, and in family-sized groups during late summer and early fall (Kaufman 1996b, PWC). During winter, occasionally forages in loose-knit, mixed-species flocks composed of California Towhee (***Pipilo crissalis***), White-crowned Sparrow, and Song Sparrow (***Melospiza melodia***) in California (Cassin 1852b, Wolf 1977, PWC), and Canyon Towhee (***Pipilo fuscus***), Black-throated Sparrow (***Amphispiza bilineata***), Five-striped Sparrow (***Aimophila quinquestriata***), and Black-chinned Sparrow (***Spizella atrogularis***) in s. Arizona (Mills et al. 1980, Tenney 1997).

Diet

Few data. During fall and winter, eats primarily small grass and forb seeds, fresh grass stems, and tender plant shoots. Wild plant foods include various plant seeds: knotweed (***Polygonum*** spp.), chickweed (***Stellaria media***), pigweed (***Amaranthus*** spp.), filaree (***Erodium*** spp.), dock (***Rumex*** spp.), wild oats (***Avena*** spp.), miner's lettuce (***Montia*** spp.), and unidentified grass seeds (Barlow 1902, Martin et al. 1951, Oberholser 1974c, Shuford 1993a). Stomachs (***n*** = 5) of birds collected during fall and winter in Arizona contained 80-100% plant material (Phillips 1968f, Wolf 1977). Stomachs of 18 birds collected in California in late Sep 1901 showed diet consisting of 88.4% plant matter and 11.6% animal matter; food items identified included chickweed, knotweed, pigweed, filaree, oats, crickets and grasshoppers (Orthoptera: Acrididae), ground beetles (Coleoptera: Carabidae), scale insects (Homoptera: Coccoidea), and ants (Hymenoptera: Formicidae), with wild oats and grasshoppers the predominant food items (Barlow 1902). Stomachs of 6 birds collected during winter in Mexico contained seeds, gravel, and tiny insects (Phillips 1968f).

During spring and summer, plant foods still predominate, but insects become more common in diet. Stomach analysis of 25 California birds revealed that during summer, plant foods make up 79% of overall diet, animal foods 21% (Martin et al. 1951). Arthropod food consists of grasshoppers and crickets; larval and adult beetles (leaf beetles [Chrysomelidae], fireflies [Lampyridae], ladybird beetles [Coccinellidae], and ground beetles); ants, bees, and wasps (Hymenoptera); true bugs (Hemiptera); leafhoppers (Homoptera); moth and butterfly caterpillars (Lepidoptera); flies (Diptera); and spiders (Araneida), with grasshoppers and caterpillars the principal insects eaten (Barlow 1902, Martin et al. 1951, Oberholser 1974c, Shuford 1993a, Kaufman 1996b). Other arthropods taken occasionally include mosquitoes (Diptera: Culicidae), anthomyiid flies (Diptera: Anthomyiidae), ladybird beetles, cockroaches (Orthoptera: Blattidae), mantids (Orthoptera: Mantidae), aphids (Homoptera: Aphididae), and adult butterflies and moths (Phillips 1968f).

Food Selection and Storage

No information. Not known to store food.

Nutrition and Energetics

No information.

Metabolism and Temperature Regulation

No information.

Drinking, Pellet-Casting, and Defecation

Unknown if this species obtains sufficient water from diet when surface water is not available. During late spring, observed drinking from edge of small stream located 100 m from inhabited coastal sage scrub habitat in s. California (PWC). After heavy summer rainfall, drinks and bathes in water accumulated in rock depressions (K. Groschupf pers. comm.). In absence of seeps, ponds, or small creeks, accumulated moisture on vegetation from rain, dew, and fog drip may provide sufficient water without individuals having to make regular visits to nearby sources of surface water. No information on pellet-casting or defecation.

Distribution, Migration, and Habitat

Sounds and Vocal Behavior

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Conservation and Management

Recommended Citation

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California Towhee

Green-tailed Towhee

Rufous-crowned Sparrow

Aimophila ruficeps

Order:PASSERIFORMES
Family:PASSERELLIDAE

Sounds and Vocal Behavior

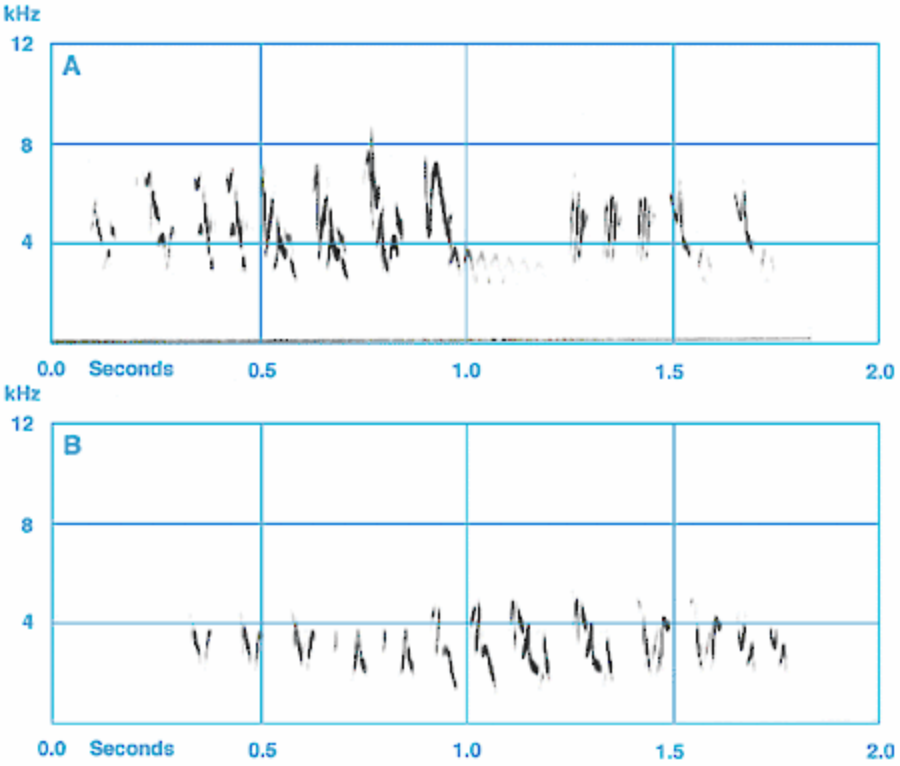

Figure 3. Primary Songs of the Rufous-crowned Sparrow.

Enlarge

A. Primary (trill) Song (A. r. eremoeca, recorded at Canyon, TX, 11 Jun 1973; Borror Labor-atory of Bioacoustics [BLB] no. 12344). B. Primary (nontrill) Song (A. r. scottii), recorded at Portal, AZ, 4 Jul 1964). Prepared by staff of the BLB, Ohio State University.

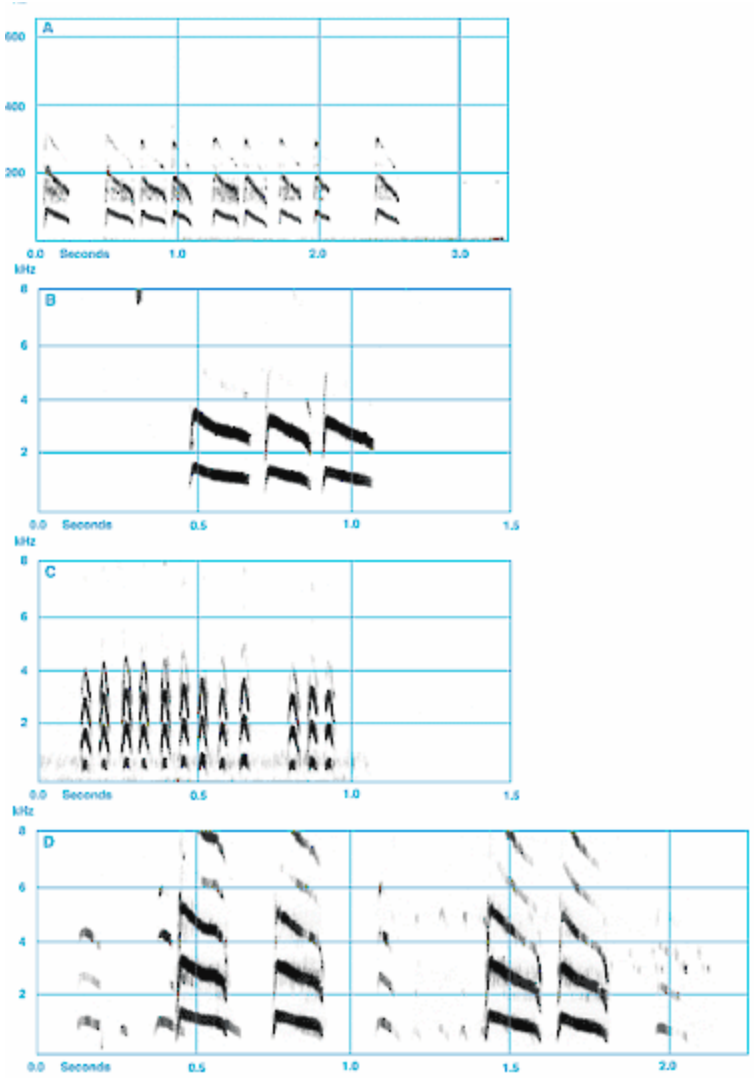

Figure 4. Calls of Rufous-crowned Sparrows.

Enlarge

A. Male Dear Calls. B. Pip Call, followed by 3 Dear Calls. C. Alarm Chatter Call. D. Dear Duet (male dears are louder, or darker, notes). Prepared by K. Groschupf. All vocalizations are from A. r. scottii, recorded between May and Aug 1981 in Sawmill Canyon, Santa Rita Mtns., Pima Co., AZ.

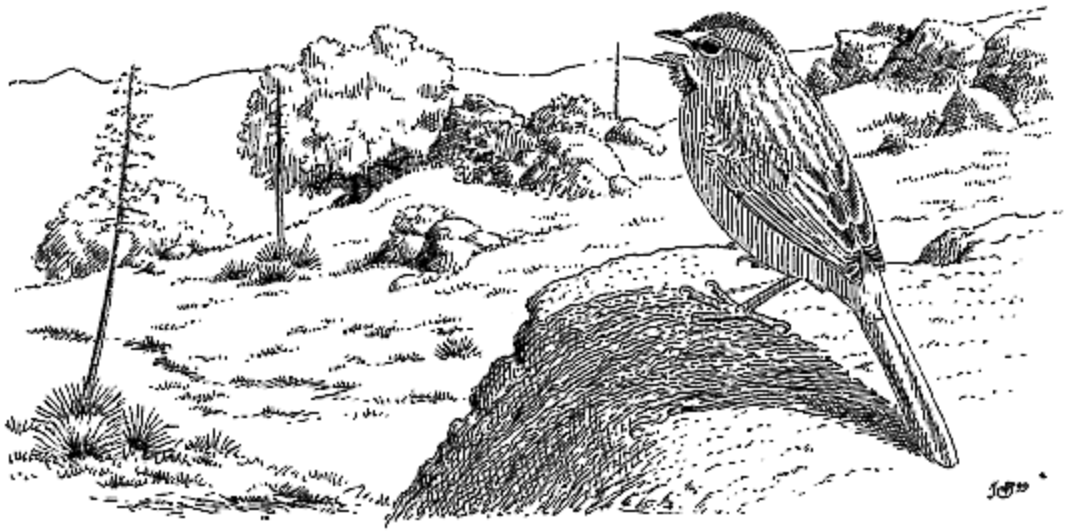

Figure 5. Male Rufous-crowned Sparrows sing from prominent perches in their habitat.
Drawing by N. John Schmitt.

Enlarge

Vocalizations

Development

Not well studied. No information on development and inheritance of vocalizations, on sensitive periods of learning, or on what portion of song is innate versus learned.

Vocal Array

From Groschupf 1983 and Wolf 1977, except where noted. Songs and calls fit classical definitions (Thorpe 1956, Maler and Issac 1961). Songs are delivered by males from conspicuous perch or in flight during breeding season, and presumably function in mate attraction and territorial defense. Calls may be delivered by both sexes and all age groups throughout year, and they function as simple communication signals. A note is one continuous vocal utterance (Maler and Issac 1961). A syllable (note complex or phrase) is "a note, or a group of notes consistently occurring together"; a trill is "a series of similar note complexes separated by silences less than the silences between two dissimilar note complexes" (Groschupf 1983: 10).

Primary Song. Figure 3 . Two types of Primary Song (trill and nontrill), with trill less common than nontrill (Wolf 1977, Wimer 1995). Of 51 different song types recorded from 8 individuals (***A. r. scottii***; se. Arizona), only 11 (22%) of the songs had trills (K. Groschupf pers. comm.).

Nontrill Primary Song is "a complicated, quick series of jumbled notes which vary considerably in pitch and duration" (Groschupf 1983: 31; see Figure 3B), described onomatopoeically as ***chi-chi-chew, CHU, tsi-tsi-ti-tsi-ti, tweele*** (Cogswell 1968a). It has been likened to high-pitched House Wren (***Troglodytes aedon***) song, or resembles in general pattern the muted song of Lazuli Bunting (***Passerina amoena***) or Indigo Bunting (***P. cyanea***) but is lower in volume and has a less musical tone (Cogswell 1968a, Borror 1971). Structurally, Primary Song consists of series of 5–11 syllables, each of which can occur singly or be repeated up to 6 times (Wolf 1977, Groschupf 1983). Each syllable is composed of 2–5 notes of varying lengths. In typical 11-syllable nontrill song, 5 syllables are given only once and 1 syllable is repeated 6 times (Wolf 1977). In one trill song, initial sequence of 5 syllables was followed by 16-note trill (Wolf 1977). Delivery of syllables within a song is not stereotyped but is generally presented in a predictable manner (Groschupf 1983). There is some variation in characteristics of Rufous-crowned Sparrow songs between Arizona and California populations (see medialink).

Secondary Song. Soft version of complete Primary Song; typically given by male while foraging on the ground; probably serves for pair-bond reinforcement and/or intrapair communication as the volume is not sufficient for territorial proclamation (Wolf 1977, Groschupf 1983).

See Figure 4A and B . This nasal scolding call, transcribed as ***dear-dear-dear***, is often the first call a person hears upon entering a Rufous-crowned Sparrow's habitat. Notes may be rendered singly or run into short series lasting up to 2.5 s (Cogswell 1968b, Groschupf 1983). Carrying almost as far as Primary Song, ***Dear*** Call is thought to convey mild alertness to danger and thus functions as a location alarm call (Cogswell 1968b, Wolf 1977). It is also given by males before and during pair reunion, when third bird joins a pair, and when an intruding conspecific or perceived threat is present (Groschupf 1983). It is also occasionally given by females (Wolf 1977, Groschupf 1983).

Other Calls. In addition to ***Dear*** Call, Rufous-crowned Sparrow produces various single-syllable calls, such as ***Tzeet***, ***Pip***, ***Chup***, and ***Chur*** calls, along with various multisyllabic alarm and pair-bond calls (Groschupf 1983). These calls function in maintaining contact between members of a pair and/or their young, or in signaling alarm or aggression. ***Tzeet*** Call is a soft, high-pitched, upward-slurred note given between members of a pair either when perched or while foraging; appears to be location or contact call. A female sitting on her nest was heard giving this call in answering her mate (Myers 1909a). ***Pip*** Call is a high-pitched (8–9 kHz) note used in combination with ***Dear*** Call (see Figure 4B) during intense situations—e.g., when fledglings fly toward or away from their parents. ***Chup*** Call is given by solitary birds as they forage on the ground; probably functions to advertise location. ***Chur*** Call consists of a series of simple, low-pitched notes spanning narrow frequency range (1–2 kHz, ***n*** = 18–21) and functions as intense alarm call (Groschupf 1983).

Several calls are typically given during breeding season. Alarm Chatter Call (Figure 4C), given by both males and females, consists of rapid series of identical notes spanning a wide frequency range (3–9 kHz). This is an intense alarm call given by adults attempting to protect their

fledged young. Adults were observed in se. Arizona using this call while mobbing a tiger rattlesnake (***Crotalus tigris***; Groschupf 1983). Chatter Call is a rapid series of harsh-sounding notes resembling call of Verdin (***Auriparus flaviceps***) or Ruby-crowned Kinglet (***Regulus calendula***). This call was given by an immature as it followed after an adult male (Groschupf 1983). If not a begging call, then the exact function of this call is unclear. Rattle Call is monotone, high-pitched, repetitive series of notes that end in ***Dear*** Call, and is typically given by male as he chases conspecific intruders in his territory (Groschupf 1983).

Rufous-crowned Sparrows also produce calls that function in pair recognition, strengthening of pair bonds, and territorial reinforcement. Chatter Duet and ***Dear*** Duet are given between members of a pair while female is building nest and may function to reinforce pair bonds (Wolf 1977). Chatter Duet consists of intense ***tziit*** sounds given by male while female produces chatter resembling Alarm Chatter Call (Groschupf 1983). ***Dear*** Duet (Figure 4D) consists of a series of ***dears*** given in rapid succession by both birds, in which ***dear*** notes given by female are shorter, softer, and resemble chatter (Groschupf 1983). Pair Reunion Duet is an uncommon, soft, warbling call performed between members of a pair when they meet within their territory; probably functions to reinforce pair bond. This call resembles "squeal duet" of California Towhees (Wolf 1977).

Geographic Variation. Wolf (Wolf 1977) found no significant differences in songs among 3 populations of Rufous-crowned Sparrows from California, Arizona, and New Mexico, but made no quantitative measurements that could be used for statistical comparisons. Several studies have shown that although Rufous-crowned Sparrows have complex vocalizations, they show little sharing of notes or songs between populations (Borror 1971, Groschupf 1983). Wimer (Wimer 1995) found only weak separation in song characteristics among 3 populations from s. California; note rate (number of notes per second) and average frequency were the best characters for discriminating among the 3 populations. In s. California, Rufous-crowned Sparrows have more note types and notes per song, but they have only one-fourth the note-type repertoire of Arizona birds (Groschupf 1983, Wimer 1995). More detailed examination of introductory phrases might prove useful in looking for broader-scale geographic variation in song of this species (Wimer 1995). Except for Wimer (Wimer 1995), no one has studied microgeographic variation in songs and geographic variation in calls for this species.

Phenology

In s. California, males usually are heard singing from Mar until mid-Jul; generally quiet during fall and winter (Cogswell 1968a, PWC). Males occasionally start singing in mid-Feb and have even been heard on rare occasions singing in Dec and Jan (Cogswell 1968a, PWC). In Arizona and Texas, males begin singing in Mar (rarely by late Feb) and quit between early Aug and mid-Sep (Smith 1917, Oberholser 1974c, Groschupf 1983). Calls (e.g., ***Dear*** and ***Tzeet*** calls) are given throughout year; Chatter Duet and Pair Reunion Duet are given only during breeding season (Cogswell 1968a, Groschupf 1983, PWC).

Daily Pattern

Males typically sing at all hours of day; peak activity in early morning and late afternoon (Groschupf 1983, PWC). Fewer song bouts per hour as day progresses. Males sing faster from exposed perches than from the ground (Groschupf 1983). Actively singing males deliver average of 7–10 songs/min (Wolf 1977). Average singing rate of birds in s. Arizona was 9.9 songs/min ± 2.5 SD (range 7.8–13.9, ***n*** = 4 males, with 13 sequences of 6 consecutive songs; Groschupf 1983).

Places Of Vocalizing

Males usually deliver Primary Songs from prominent perches within their territories (see Figure 5), and on rare occasions while in flight (Miller 1955c, Wolf 1977, Groschupf 1983). Flight songs are given by male usually when female is nearby, suggesting that they function as intersexual display (Groschupf 1983). Males also sing while foraging and following their mate around territory, but their songs are much quieter and are typically directed toward female (Wolf 1977, Groschupf 1983). Males do not sing from nest or from available song-posts above nest (PWC). Although females are not known to sing, both sexes give call notes throughout year from various locations, including the ground (Wolf 1977, Groschupf 1983). Song-posts generally are low (1–2 m above ground surface), exposed sites such as top of shrub, weed stalk, small tree, brush pile, or exposed rock (Cogswell 1968a, Wolf 1977, Groschupf 1983, PWC). Mean height of song-posts in se. Arizona was 1.93 m (range 0–4.58, ***n*** = 125; Groschupf 1983). In habitats that lack tree or shrub song-posts, males typically sing from top of rocks or rock outcrops, or from herbaceous plant or weed stalks (PWC).

Repertoire And Delivery Of Songs

Large population note (note complex) repertoire; individuals have medium-sized note repertoire (Groschupf 1983). On basis of 3,320 songs recorded from 8 in-dividuals (***A. r. scottii***; Pima Co., AZ), Groschupf (Groschupf 1983) recognized 259 different note complexes, corresponding to 51 different song types (population repertoire; range 5–85 songs/individual) and individual song repertoire of 13 songs per bird (range 1–14). On basis of 25 songs recorded per bird for 30 birds in s. California, Wimer (Wimer 1995) reported a note-complex repertoire size of 11.9 and song repertoire of 6.8. Birds in se. Arizona sing >20 distinct note types in the first 60 songs, and introduction of new note types does not taper off until >300 songs have been sung (Groschupf 1983). Since California birds have only one-fourth the note-complex repertoire of Arizona birds, they exhaust their repertoires much more quickly (Wimer 1995). This species also has one of the largest call-type repertoires for an ***Aimophila*** sparrow, which may be of advantage in interindividual communication for a semisocial species like the Rufous-crowned Sparrow (Groschupf 1983).

Song bouts, sung on the ground or from a perch, generally consist of a single song type sung from 1 to many times; only rarely do song types change during a song bout (Groschupf 1983). Individuals do not usually coordinate countersinging, so singing neighbors do not alternate or match each other with identical song types (Groschupf 1983). Russell and Monson (Russell and Monson 1998) provided the only record of countersinging in this species, but gave no details with which to evaluate their observation. It is unknown whether the

transitions between different song types are independent of one another, nor is it known if the number of different types of songs sung is related to time of year or stage of nesting cycle (Groschupf 1983).

Singing rate is not correlated with average song length, but it does appear to be related to time of day (Groschupf 1983). Intersong intervals of songs sung before 07:30 (n = 30) are sung at faster rate than are songs sung after 07:30 (n = 35, p < 0.001; Groschupf 1983).

No information on variations in song repertoire size or patterning in relation to age or season.

Social Context And Presumed Functions

See discussion of vocal array, above. Primary Song given by male Rufous-crowned Sparrow during breeding season probably functions in mate attraction and territorial advertisement. The moderate-sized note-complex and diverse call-type repertoires in this species may allow individual birds to recognize each other by song and/or call. Because Rufous-crowned Sparrows are semisocial, with most individuals closely spaced on small territories, they may have developed moderate-sized song repertoires as a way for individuals to recognize each other, thus avoiding continuous territorial disputes among neighbors and reducing chances of cuckoldry (Groschupf 1983). Male Rufous-crowned Sparrows maintain close contact with their mates, often singing within close proximity and following them as they forage. At such times they produce a softer version of their complete Primary Song, which is barely audible a few meters away. This Secondary Song may serve in pair-bond reinforcement and/or intrapair communication (Wolf 1977).

Nonvocal Sounds

None known.

Diet and Foraging Behavior

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California Towhee

Green-tailed Towhee

Rufous-crowned Sparrow

Aimophila ruficeps

Order:PASSERIFORMES
Family:PASSERELLIDAE

Sections

Behavior

Locomotion

Walking, Hopping, Climbing, Etc

Spends most of the time on or close to the ground, where movements consist of walking, short hopping, and evasive running. When disturbed, prefers to stay out of sight under dense cover on or close to the ground, often running from intruders rather than taking immediate flight. When foraging, either hops about on the ground (Oberholser 1974c) or walks slowly (Wolf 1977). Movements across open areas are faster, consisting of running or short, rapid hops. Occasionally jumps to peck seeds and/or insects from overhanging grass, herb, or shrub stems, and to reach top of a rock. In San Gabriel Mtns. of s. California, this species was tracked moving on the ground between low shrubs for distance of almost 213 m (Cogswell 1968a).

Flight

Typically rapid, floppy, and labored (Wolf 1977). When flushed, often flies low over bushtops in downhill direction for short distances (6–15 m) and drops quickly into cover (Grinnell and Miller 1944, Wolf 1977). Flight distance is short and generally limited to within territory during breeding season; 165 m is longest recorded flight (Cogswell 1968a). Most flights are restricted to short, direct flights low over shrubtops

between song-posts, and between patches of dense vegetation while foraging. No records of this species hovering or soaring.

Swimming And Diving

Not known to swim.

Self-Maintenance

Preening, Head-Scratching, Stretching, Bathing, Anting, Etc

Exhibits typical passerine preening; bill used to comb and smooth chest feathers, remiges, and wing coverts (PWC). No evidence of allopreening and no information on stretching, head-scratching, or anting. Bathes when surface water is available, but no records of anting or dust-bathing.

Sleeping, Roosting, Sunbathing

No information on sleeping or roosting; never observed sunbathing.

Daily Time Budget

No quantitative data available.

Agonistic Behavior

Physical Interactions

During breeding season, territorial individuals observed chasing intruding conspecifics to or just beyond territory boundaries (Cogswell 1968a, Groschupf 1983, PWC). Physical contact (e.g., grappling, jabbing with bill, striking with wings) not observed in this species during agonistic encounters with conspecifics. Males are extremely responsive to playback recordings during breeding season, occasionally even approaching to within 0.5 m of recorder (PWC).

Communicative Interactions

Rattle and ***Dear*** Calls (see Sounds: vocalizations, above) are given by males while chasing conspecific intruders. ***Chur*** and Alarm Chatter calls are uttered by both sexes to communicate alarm and/or predator warning. During intraspecific territorial intrusions, males have occasionally been observed exaggerating their distinctive head pattern by facing the ground and erecting their crown feathers (Groschupf 1983, K. Whitney pers. comm.). Mills et al. (Mills et al. 1980) reported that the aggressive display of male Rufous-crowned Sparrow, which is given during lengthy interactions at territorial boundaries or during territorial intrusions, is very similar to the aggressive display of Five-striped Sparrow. In both species, male assumes posture in which body stiffens; wings droop; feathers, especially those on rump and flanks, are erected; tail is cocked at 45° angle; and head is extended straight out or pointed upward, accentuating prominent markings of throat for the other bird (Mills et al. 1980). Three decoy or distraction displays recorded for Rufous-crowned Sparrows include tumbling off top of a bush, rodent runs, and "broken-wing" distraction display (Phillips and Thornton 1949, Marshall 1957c).

Spacing

Territoriality

Breeding males are strongly territorial; sing in and generally exclude conspecifics from contiguous, relatively fixed but nonoverlapping areas of suitable habitat (Wolf 1977). Male sings persistently on territory throughout breeding season (see Sounds: vocalizations, above). Territory boundaries usually are well defined by song-posts used by territorial males (PWC). In se. Arizona, breeding adults occasionally tolerate other Rufous-crowned Sparrows in their foraging area (Groschupf 1983). Territories appear to be clumped rather than evenly distributed (Barlow 1902, Cogswell Cogswell 1968b, Cogswell 1968a). Territory size varies with type and condition of habitat. In s. California, territorial males are closely spaced in coastal sage scrub; more widely spaced in regrown (3–5 yr after fire) hard chaparral (see Demography and populations: range, below). Estimated average territory size in s. California hard chaparral was about 1.5 ha (Cody 1974).

Rufous-crowned Sparrows tend to remain on territories and maintain individual spacing patterns year-round (Groschupf 1983, PWC). At end of breeding season, individuals do not flock except as family groups; family groups consisting of paired adults and their offspring remain together well into winter (Wolf 1977). Little evidence of interspecific territoriality (see Social and interspecific behavior, below), and no evidence of dominance hierarchies. Not known if territory size varies relative to reproductive cycle or season.

Individual Distance

During nonbreeding season, forages in close quarters in small family groups (4–6 birds), with no evidence of aggression. No information on space maintained between singing males during breeding season.

Sexual Behavior

Mating System And Sex Ratio

Apparently monogamous; no reports of polygamy. No information about sex ratios on breeding territories or size of floating population.

Pair Bond

Pair bonds apparently are maintained through breeding season, possibly year-round (Wolf 1977, Kaufman 1996b). Pair bond develops early in breeding season before nest-building, with female following male during foraging bouts (Cogswell 1968a, PWC). Possible mate-guarding during breeding season, on basis of males observed following females closely in nest vicinity and members of pair foraging together when away from nest site. Pair Reunion Duet, ***Dear*** Call, and Chatter Duet (see Sounds: vocalizations, above), given as greetings during breeding season between members of pair, probably serve to strengthen pair bonds. Male occasionally sings soft version of Primary Song while foraging with or perched near mate. These softer Secondary Songs are usually directed solely at female, suggesting that they serve to strengthen pair bonds.

No definitive information on duration and maintenance of pair bonds, mate-guarding, copulation, or occurrence of ritualized courtship or

female solicitation displays.

Extra-Pair Copulations

No information.

Social and Interspecific Behavior

Degree Of Sociality

Typically nongregarious. Strictly territorial as mated pairs during breeding season (Wolf 1977); as result of disjunct habitat distribution, however, often occurs in what appear to be clumped, local colonies (Pemberton 1910, Cogswell 1968b). More gregarious in winter, when species occurs in small family groups of 5–6 birds, though never in small, loose flocks (Cogswell 1968b, Groschupf 1983). Earlier reports of larger winter flocks of Rufous-crowned Sparrows (Linton 1908c, Esterly 1920) probably were based on incorrect species identifications (Cogswell 1968b). During winter, forages with conspecifics and occasionally with mixed-species flocks (see Food habits: feeding, above).

Play

No information.

Nonpredatory Interspecific Interactions

Few data available concerning interactions with other species; no indication of true interspecific territoriality (see Behavior: spacing, above). Interspecific aggression occasionally observed between territorial Rufous-crowned Sparrows and various resident species—e.g., Mexican Jay (***Aphelocoma ultramarina***), Painted (***Passerina ciris***) and Lazuli buntings, and California and Spotted (***Pipilo maculatus***) towhees (Nice 1929d, Brandt 1951, Groschupf 1983, K. Whitney pers. comm., PWC). In Arizona, Rufous-crowned Sparrows exhibit no evidence of interspecific territoriality or mutual aggression toward sympatric Rusty or Oaxaca sparrows (Marshall 1957c, Wolf 1977), and they avoid interspecific aggressive encounters with other ***Aimophila*** species through temporal and spatial segregation (Webb and Bock 1996). In Sonora, Mexico, Rufous-crowned Sparrows displayed no overt response when songs of 3 other sympatric species of ***Aimophila*** were played, suggesting that this species is not interspecifically territorial, at least with congenerics (Groschupf 1983).

Predation

Kinds Of Predators

No direct observations of predation on adults, eggs, or nestlings. This species probably is susceptible to typical avian predators that prey on small passerines and, because it nests and feeds on the ground, to various reptilian and mammalian predators. In Arizona, aggressive vocal responses toward Mexican Jay (Brandt 1951) and tiger rattlesnake (Groschupf 1983) suggest that these species are likely predators of eggs, nestlings, and to lesser extent, brooding females.

Response To Predators

Brandt (Brandt 1951) observed a Rufous-crowned Sparrow attacking a Mexican Jay, a potential predator of this species in Arizona. Adults have also been observed giving Alarm Chatter and ***Chur*** calls in presence of potential predators to protect their fledged young (Groschupf 1983). When an intruder approaches too close to Rufous-crowned Sparrow nest, female often flies away silently, remaining close to the ground until reaching shelter of a bush, from which she begins to scold vigorously with series of ***Dear*** Calls. Tumbling off the tops of bushes, rodent runs, and fluttering wing display are possible distraction displays performed most often by males to defend nestlings and/or fledged young (Phillips and Thornton 1949, Marshall 1957c).

Sounds and Vocal Behavior **Breeding**

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Sections

Breeding

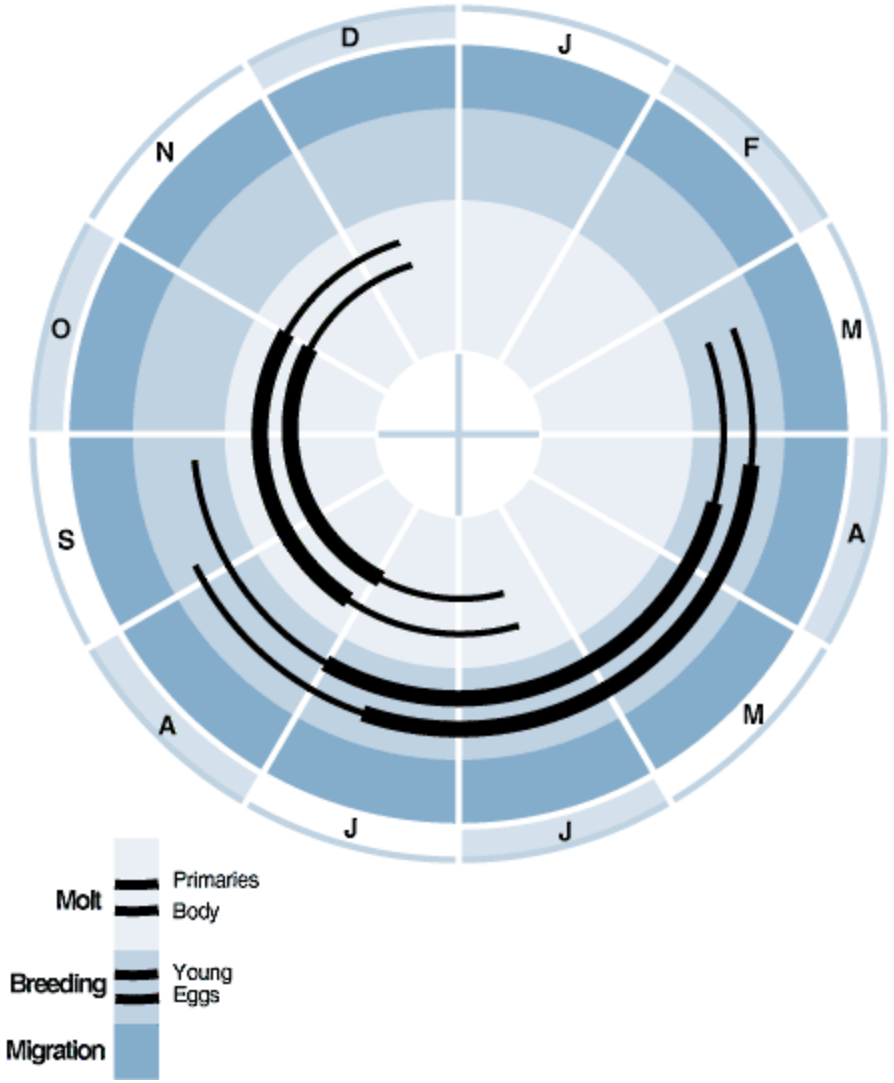

Figure 6. Annual cycle of breeding and molt of the Rufous-crowned Sparrow.
Thick lines show peak activity; thin lines, off-peak.

Enlarge

Rufous-crowned Sparrow nest, California

Enlarge

Whittier Hills, Los Angeles Co., CA. 9 April 1937. Ruler is 8 cm.; photographer Rene Corado

Rufous-crowned Sparrow clutch, California

Enlarge

Phenology

Phenology of breeding is influenced by latitude and by rain or some aspect of the environment dependent on rain (Wolf 1977). Spring and/or summer rains are especially important in phenology of breeding in this species because rain contributes to development of herbaceous cover and food availability (insect and seed crops), which is essential for successful reproduction. Throughout sw. U.S. and Mexico, nesting coincides with onset of summer rains; in California, nesting begins late Feb or early Mar; probably related to prevalence of rain in winter and early spring (Wolf 1977).

Pair Formation

In California, adult birds remain paired throughout winter; hatch-year young do not pair until the spring before their first breeding season (Cogswell 1968b, Wolf 1977). Pairs form in California anytime from very early spring (1 Feb) until late May (Cogswell 1968a). In central Texas, pairs form by early Apr (Phillips 1968e), and in Santa Catalina Mtns. of s.-central Arizona, by mid-Mar (Scott 1885b).

Nest-Building

Few data. Earliest report of birds carrying nesting material is 2 Mar from s. California (Cogswell 1968a). Elsewhere, nests observed under construction 26–27 Apr in Oklahoma (Baumgartner and Baumgartner 1992), and 9 and 18 Jul in Brewster Co., TX (Van Tyne and Sutton 1937). Unknown how long it takes female to build nest or time between nest completion and laying of first egg.

First/Only Brood Per Season

Egg dates vary according to latitude and region (Figure 6, Table 3). In California, eggs from 11 Mar to 10 Jul (***n*** = 117), with most in Apr and May (see Table 3). Birds in s. California nest earlier (11 Mar–15 Jun) than birds in n. California (7 Apr–10 Jul; unpubl. egg data slips). In se. Arizona, egg dates 30 Apr–5 Sep (***n*** = 23); most Jun–mid-Aug (see Table 3), the period of summer monsoonal rains. In Texas, egg dates range from 4 Apr to 25 Jul (***n*** = 34), with most from May through Jul (see Table 3). An exceptionally late nesting record was of a nest containing 4 young with eyes not yet opened, found 26 Sep in Davis Mtns. of w. Texas (Smith 1917). In areas with summer monsoonal rains (Arizona, New Mexico, Texas, and Mexico), Rufous-crowned Sparrow exhibits bimodal breeding pattern, with nesting occurring during Apr and May and again during the summer rainy period (Jul–early Sep; Phillips Phillips 1968e, Phillips 1968f, Wauer 1985). In Oaxaca, Mexico, nest with eggs observed 15 and 25 Jun, and adults with dependent fledglings observed 12 Jul and 17 Oct (Rowley Rowley 1966, Rowley 1984, Binford 1989a).

Second Brood Per Season

Second or third broods have been reliably reported only in s. California; one banded female produced 2 broods (second brood failed) and another 3 broods (middle brood failed) in single nesting season (Ellison 1998a). Second or replacement clutches are initiated within 1 wk of nest failure or after parental care of fledglings from first clutch ceases (K. Ellison pers. comm.).

Nest Site

Selection Process

No information.

Microhabitat; Site Characteristics

Most nests are situated directly on the ground, either flush with the ground (Wolf 1977), in a natural depression or hole in the ground (Williams 1897, Pemberton 1910), or very infrequently, in low bushes up to 45 cm off the ground (Phillips 1968e, Wolf 1977, Shuford 1993a). One record of a nest inside an old rusty tin can (Heaton 1928). Nests are typically well hidden, often situated at base of low bush,

grass tussock, or rock, and usually completely or partially concealed with overhanging grass, herbaceous vegetation, or projecting ledge or rock overhang (Wolf 1977, Byers et al. 1995a, PWC). Mean percentage of nest visibility (proportion of nests visible from a specified aspect) of 35 nests was 8.3% from above and 9.2% from the side (Ellison 1998a). In s. California, often nests in grass on the ground against shrub or grass tussock (Ellison 1998a, PWC). Nests (***n*** = 35) in s. California were negatively associated with rocks, suggesting avoidance of predation from California ground squirrels (***Spermophilus beecheyi***) and reptiles (Ellison 1998a).

Of 70 nests in s. California, 67 (96%) were on the ground and only 3 (4%) were in shrubs. Of these 70 nests, 27 were next to clumps of bunchgrass (***Stipa*** sp.), 12 in grass, 22 under shrubs, 3 in shrubs, and 6 under rock overhangs (unpubl. egg data slips). In California, nests found under California sagebrush, deer weed, giant rye, white sage (***Salvia apiana***), manzanita, poison oak, coastal goldenbush (***Isocoma menziesii*** var ***vernonioides***), morning glory (***Calystegia macrostegia***), and bunchgrass (Collins 1999b, K. Whitney pers. comm.). In sw. U.S., nests found in scrubby cedar trees and thick shin oaks (***Quercus pungens veseyana***); at base of prickly pear cactus (***Opuntia engelmanni***), saltbush (***Atriplex*** sp.), and turpentine bush (***Aplopappus laricifolius***); and under sotol, mescal (***Agave americana***), yucca, bear grass (***Nolina*** sp.), and little bluestem grass (***Schizachyrium scoparius***; Bailey Bailey 1917b, Bailey 1928b, Willard 1912b, Simmons 1925, Phillips Phillips 1968e, Phillips 1968f, Banta 1985, unpubl. egg data slips).

Nest

Construction Process

Little information. Only females construct nests (Bailey and Niedrach 1965, Cornell Nest Records Program [CNRP] nest card data). No information on length of time required to build nest or on daily allotment of time female spends building nest.

Structure And Composition Matter

Nest is a loosely constructed, bulky, thick-walled open cup composed almost entirely of coarse dried grasses and rootlets, sometimes with small twigs, weed stems, or strips of bark (Phillips 1968e, Wolf 1977, Harrison 1978a, Roberson and Tenney 1993, Shuford 1993a). Nest cup is generally lined with fine grass stems and animal hair (horse [***Equus caballus***] and deer [***Odocoileus*** sp.]; Harrison 1978a, Banta 1985, Shuford 1993a), soft bark, or other shredded plant fibers (Simmons 1925, Phillips 1968e).

Dimensions

On basis of 20 nests from throughout the species' geographic range—mean ± SD (range), in cm: outside diameter 11.1 ± 1.8 (7.6–15.2), outside height 6.4 ± 1.7 (4.8–10.2), inside diameter 5.9 ± 1.1 (2.5–7.6), inside depth 4.2 ± 1.1 (2.5–6.4).

Microclimate

No quantitative data. Nest generally well concealed, often wedged in hollow among rocks, or under protective cover of vegetation or overhanging rock. Function of protective canopy presumed to be thermoregulation and predation avoidance, as suggested by Ellison

(Ellison 1998a), but not investigated.

Maintenance Or Reuse Of Nests, Alternate Nests

No information regarding nest maintenance. New nests are constructed for each nesting.

Nonbreeding Nests

Not observed.

Eggs

Shape

Elliptical to subelliptical (Harrison 1978a).

Size

Mean length × breadth (range), in mm: for ***A. r. canescens*** —19.50 (17.59–21.69) × 15.21 (13.92–16.47; ***n*** = 51 clutches, 184 eggs; University of California Museum of Vertebrate Zoology [MVZ], Santa Barbara Museum of Natural History [SBMNH], Western Foundation of Vertebrate Zoology [WFVZ]); for ***A. r. eremoeca*** —20.40 (18.24–21.68) × 15.84 (14.94–16.44, ***n*** = 8 clutches, 30 eggs; WFVZ); for ***A. r. ruficeps*** —19.80 (17.50–21.98) × 15.22 (14.04–16.17, ***n*** = 13 clutches, 47 eggs; WFVZ); and for ***A. r. scottii*** —20.43 (19.10–21.50) × 16.33 (15.67–17.00, ***n*** = 7 clutches, 23 eggs; MVZ, SBMNH, WFVZ). In Texas, Oberholser (Oberholser 1974c) reported average egg size of 20.3 × 16.0 mm for ***A. r. eremoeca*** and 20.3 × 15.2 mm for ***A. r. scottii.*** In Arizona, Phillips (Phillips 1968f) reported average egg size for ***A. r. scottii*** of 20.0 × 15.6 mm (***n*** = 71 eggs; extremes for 4 eggs measured: 22.8 × 16.8, 17.9 × 15.7, and 19.1 × 14.2).

Mass

Fresh, whole-egg weight: for ***A. r. ruficeps***, mean 2.14 g (range 1.91–2.48, ***n*** = 22 eggs; Hanna 1924).

Color

Typically pale bluish white and unmarked (Harrison 1978a), occasionally pure white (Heaton 1928, Hoffman 1927).

Surface Texture

Smooth and slightly glossy (Harrison 1978a).

Eggshell Mass

Mean shell mass (range), in g: for ***A. r. canescens*** —0.140 (0.109–0.175, ***n*** = 51 clutches, 180 eggs; MVZ, SBMNH, WFVZ); for ***A. r. eremoeca*** —0.170 (0.146–0.204, ***n*** = 8 clutches, 30 eggs; WFVZ); for ***A. r. ruficeps*** —0.142 (0.101–0.180, ***n*** = 13 clutches, 43 eggs; WFVZ); and for ***A. r. scottii*** —0.167 (0.144–0.186; ***n*** = 7 clutches, 18 eggs; MVZ, SBMNH, WFVZ).

Clutch Size

Usually 3–4 eggs, occasionally 2 or 5 (Harrison 1978a) and rarely 6 (K. Ellison pers. comm.; see Table 4 and Demography and populations: measures of breeding activity, below). Average clutch size rangewide is 3.5 ± 0.68 SD (range 1–5, ***n*** = 174 clutches), with 3-egg (43.7%)

and 4-egg (50.6%) clutches accounting for 94.3% of clutches (see Table 4). Clutch size varies geographically; largest in s. California (***A. r. canescens***; mean 3.7 eggs/clutch), smallest in Arizona and New Mexico (***A. r. scottii***; mean 3.1 eggs/clutch; see Table 4).

Egg-Laying

Few data. Resembles pattern seen in ***Aimophila*** sparrows; begins laying upon completion of nest, 1 egg/d (K. Ellison pers. comm.). No information on interval between nest completion and start of egg-laying or on what time of day most eggs are laid. Female abandons nest when clutch is lost. Nest failures occasionally result in renesting (see Demography and populations: measures of breeding activity, below), which typically occurs in a new location. Intraspecific egg-dumping not recorded for this species.

Incubation

Onset Of Broodiness And Incubation In Relation To Laying

No data on when incubation begins relative to when eggs are laid. In one nest, all eggs observed to hatch in <14 h, suggesting that incubation does not start until last egg is laid (Myers 1909a).

Incubation Patch

Only female incubates (Harrison 1978a) and develops vascularized, edemic incubation patch. No information about size, appearance, or development of incubation patch relative to nest cycle.

Incubation Period

Incomplete data. On basis of several nests monitored in s. California (***A. r. canescens***), incubation lasts about 11–13 d (K. Ellison pers. comm.). Incubation lasted at least 11 d for one nest in New Mexico (***A. r. scottii***; CNRP nest card data).

Parental Behavior

Few data. Female known to sit tight, often allowing approach to within 1 m of nest before flushing (Myers 1909a). Once flushed, silently flies or runs, keeping close to the ground, until under shelter of nearby vegetation (Brewster 1879c, Willard 1912b). Generally remains nearby, often keeping quiet but occasionally uttering ***Dear*** Calls (see Sounds: vocalizations, above). Returns on the ground to the nest using same furtive, stealthy behavior as it does when it leaves nest. Female has been observed leaving nest during incubation to forage. Male occasionally accompanies her during her foraging bouts. No records suggest that male feeds incubating female, and there are few data on female attentiveness. Myers (Myers 1909a) reported duration of a female's sitting on one nest as 44 min–1 h 46 min, and duration off nest as 22–29 min.

Possible distraction displays given near nest include tumbling off tops of bushes, rodent runs, and a fluttering wing display that feigns injury (see Behavior: predation, above). Females are elusive during nesting season, leaving their nest when an intruder is <2 m from nest, dodging behind bushes or from one clump of grass to another while entering and leaving nest, and quickly deserting nest if it is disturbed

(Simmons 1925).

Hardiness Of Eggs Against Temperature Stress; Effect Of Egg Neglect

No information.

Hatching

Preliminary Events And Vocalizations

No information.

Shell-Breaking And Emergence

No information on time of day or length of time each egg takes to hatch. Only a single observation of hatching interval (time required for all eggs in a clutch to hatch), of about 14 h (Myers 1909a).

Parental Assistance And Disposal Of Eggshells

No observations of eggshells left within or in immediate vicinity of any active nest; no observations of females carrying eggshell fragments.

Young Birds

Condition At Hatching

No data. Altricial; naked, with orange skin and closed eyes (Myers 1909a: 132).

Growth And Development

Little information. No quantitative data on weight or linear measurements of nestlings. No descriptive information on color of mouth-lining, commissure (angle of mouth), or rictus; on exterior color of bill and mandible; on growth of contour feathers, primaries, and rectrices; or on length of time after hatching when eyes open. On day 3, young still quite naked, but wing quills just beginning to emerge (Myers 1909a). No precise measurement on length of time nestlings remain in nest before fledging. Nestling period estimated to last 8–10 d (Banta 1985, Kaufman 1996b).

Parental Care

Brooding

Little information. By female only, beginning immediately after hatching; brooding observed during day (Bailey 1917b, Myers 1909a, CNRP nest card data) and at night. No data on brooding rhythm relative to nestling period.

Feeding

Little information; mostly anecdotal observations. Both parents provision nestlings with food (Myers 1909a, Harrison 1978a, Kaufman 1996b, PWC). Nestlings feed largely or wholly on adult and larval insects (Phillips 1968f, Wolf 1977). Direct observations of nestlings being fed small caterpillars, tiny butterflies, and unidentified black insects, which are shoved whole into their gaping mouths (Brewster 1879c, Myers

1909a, Simpson 1925b). No quantitative data on frequency or duration of food-delivery visits, or on number of items delivered per visit.

Nest Sanitation

No information.

Cooperative Breeding

Not known to occur.

Brood Parasitism

Identity Of Parasitic Species

Brown-headed Cowbird (*Molothrus ater*; Friedmann 1971) and possible Bronzed Cowbird (*Molothrus aeneus* [bird seen in vicinity of nest]; CNRP nest card data).

Frequency Of Occurrence

A rare host of Brown-headed Cowbird, which is uncommon in dry scrub habitats that Rufous-crowned Sparrows occupy in s. California (Ellison 1998a). No evidence of interspecific brood parasitism by Brown-headed Cowbird in >140 nests examined in s. California (Ellison 1998a, unpubl. egg data slips, MVZ, SBMNH, WFVZ). Only 2 records: one in an ***eremoeca*** nest near San Antonio, TX (Friedmann 1971), and another in a ***scottii*** nest in Santa Catalina Mtns. northeast of Tucson, AZ (Miles 1986a). One additional record: Unidentified cowbird chick (Bronzed Cowbirds seen in vicinity) present in a ***scottii*** nest at Madera Canyon, AZ (CNRP nest card data).

Timing Of Laying In Relation To Host'S Laying

No information.

Response To Parasitic Mother, Eggs, Or Nestlings

No information.

Effects Of Parasitism On Host

No information.

Success Of Parasite With This Host

No information.

Fledgling Stage

Departure From Nest

No quantitative data on length of nestling period; estimated to last 8–9 d (Kaufman 1996b, T. Bolger pers. comm.). At nest departure, young are not completely feathered, and their wings and tails are only partially grown (Cogswell 1968b). Fledglings are incapable of flight upon nest departure and are usually found either moving through low vegetation or hopping or running on the ground under protective

cover of vegetation (PWC). No direct observations of adult or fledgling behavior at nest departure.

Growth

No information.

Association With Parents Or Other Young

Duration of offspring dependency unknown. Parents and juveniles probably remain together as family unit through at least postfledging period and possibly well into winter (Wolf 1977). Both parents continue to feed young after they leave nest, for unknown period of time. By early fall, most young are feeding themselves (PWC).

Ability To Get Around, Feed, And Care For Self

Little information. At nest departure and until wing- and tail feathers are fully grown, young cannot fly well or for any distance. They spend much of their time in lower branches of shrubs or on the ground under dense cover. Parents are responsible for most feeding for unknown number of days after departure from nest.

Immature Stage

Few data. No data on habits, dispersal, or time at which parents stop providing food. It is unknown when juveniles are able to feed themselves or when they gain independence from their parents. Immatures remain with their parents in small family groups of 5–6 individuals well into winter (Wolf 1977). Family groups probably begin to break up at start of breeding season, when the birds begin to establish pair bonds and territories. No quantitative data on size of immatures relative to adults. Immatures have fully pneumaticized skulls by 6 mo of age but windows (>2 mm) can persist in many birds through the spring/summer (Wolf 1977, Pyle 1997c). See Appearance: molts and plumages, below, for description of plumage of immatures.

Behavior

Demography and Populations

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Appearance
Systematics
Distribution, Migration, and Habitat
Diet and Foraging
Sounds and Vocal Behavior
Behavior
Breeding

Recommended Citation

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California Towhee

Green-tailed Towhee

Rufous-crowned Sparrow

Aimophila ruficeps

Order:PASSERIFORMES
Family:PASSERELLIDAE

Sections

Demography and Populations

Measures of Breeding Activity

Age At First Breeding; Intervals Between Breeding

Age at first breeding not known. Banding studies are needed. Young establish pairs the spring before their first breeding season, but it is unknown whether this occurs during their hatch year or later (Cogswell 1968b). Age at first breeding presumed to be after 1 yr (based on the fact that young of the year have been observed to establish breeding during their first year), with annual breeding thereafter. No information on percentage of first-year birds that breed.

Clutch

Usually 3 or 4, less often 2 or 5 eggs. See Table 4 and Breeding: eggs, above, for quantitative data on clutch size. Average clutch size for 174 full clutches collected from throughout sw. U.S.: 3.5 ± 0.68 SD (range 2–5; PWC). Average clutch size for one colony at Motte Rimrock Reserve in s. California was 3.18 (range 3–6, ***n*** = 33 nests, 1996–1997; Ellison 1998a). Two reliable records of multiple clutches in a single breeding season (see Breeding: phenol-ogy, above). Usually 1 clutch/season; subsequent clutches are laid if previous nesting attempt fails or if first nesting attempt occurred early in breeding season. Unknown percentage of pairs renest after success and/or failure of early-

season nests. One female in s. California laid 3 clutches during a single breeding season (K. Ellison pers. comm.). No information on differences in clutch size between first-year and returning birds.

Annual And Lifetime Reproductive Success

Limited data. Seasonal fecundity estimates for a population in s. California were 3.98 and 4.86 young/pair/season in 1996 (*n* = 17) and 1997 (*n* = 16), respectively (Ellison 1998a). Maximum number of eggs laid by a female during a single breeding season is 12 (K. Ellison pers. comm.). No information on annual (number of young fledged per female per season) or lifetime reproductive success.

Proportion Of Total Females That Rear At Least One Brood To Nest-Leaving Or Independence

Of 35 nesting attempts, 48.6% (17) were successful in producing >1 fledglings (Ellison 1998a).

Life Span and Survivorship

No information on adult survivorship. Relatively few birds banded (779 total through 1985; Bird Banding Laboratory [BBL]). On basis of 13 recoveries, the oldest bird reported from BBL records was 3 yr, 2 mo (Klimkiewicz and Futcher 1987). Insufficient data to prepare life table.

Disease and Body Parasites

Diseases

No information.

Body Parasites

Very limited information. Host to 2 species of ticks (*Amblyomma americanum* [Doss et al. 1974] and *Ixodes pacificus* [Webb et al. 1990]) and 1 species of bird fly (Hippoboscidae: *Ornithoica vicina*; McClure 1984b).

Causes of Mortality

Exposure

No information.

Predation

Little information. See Behavior: predation, above. From Ellison 1998a . Predation is primary source of nest failure for Rufous-crowned Sparrow nests in coastal sage scrub. Of 35 active nests monitored in s. California during a 2-yr study, 18 (51.4%) failed as result of predation. Six (33.3%) nests were lost to mammalian predators, 2 (11.1%) to snakes, 7 (38.9%) to snake or large avian predators, and the remaining 3 (16.7%) to unknown predators. Average daily rate of nest predation calculated using the maximum-likelihood estimation program (Pease and Grzybowski 1995) was 0.04–0.044 (Ellison 1998a). No quantitative data on rates of predation on nestlings, immatures, or adults.

Competition With Other Species

No observations of mortality resulting from intraspecific or interspecific competition.

Range

Initial Dispersal From Natal Site

No information on banded fledglings. Young disperse into adjacent marginal habitat sometime during fall or early winter (Cogswell 1968a).

Fidelity To Breeding Site And Winter Home Range

Little information. Generally remains on or near preferred breeding habitat throughout fall and winter (Cogswell 1968a, Phillips 1968f). In San Gabriel Mtns. of s. California, individuals or pairs observed during fall in or near most of the 12 territories that had been occupied the previous spring (Cogswell 1968a). All 13 recoveries of banded birds (see Life span and survivorship, above) were from same general site where they had originally been banded (BBL). A bird banded 26 Jan 1968 at Boot Spring in Big Bend National Park, TX, was observed in same general area of original capture on 23 Feb and 8 May 1968, and again on 7 Jun 1970, but fidelity to exact breeding site was not ascertained (Wauer 1985).

Dispersal From Breeding Site Or Colony

No data. Limited postbreeding wandering of young and adults into nearby habitats not used for breeding (see Migration, above).

Home Range

Limited data. Mean defended territory (see Behavior: spacing, above) includes area around nest, contiguous foraging area, and dispersal site of dependent young (i.e., home range = defended territory in this species). No information on how far breeders typically travel from nest sites to forage, on extent of home range overlap, or on size of home range relative to sex, breeding stage, or breeding versus nonbreeding season.

Mean territory size of birds in s. California at hard-chaparral site was 0.89 ha (range 0.39–1.53 ha, n = 13); at a coastal sage scrub site, 0.77 ha (range 0.49–1.3 ha, n = 14; Cogswell 1968a). Average territory size in se. Arizona, was 0.80 ha (range 0.5–1.2, n = 8; Groschupf 1983). Oak woodlands and oak-juniper-pine woodlands in s. Arizona contained 6 and 11 pairs/40 ha, respectively (Balda Balda 1969, Balda 1970); hard chaparral (7-yr after fire) in s. California held 12 territories/40 ha (Murdock and Cogswell 1942). A 43-ha plot of burned chaparral (3–5 yr after fire) in s. California supported 2.5–5.8 full-season territories/40 ha; similar-sized plot of coastal sage scrub supported 3.9–6.9 full-season territories/40 ha (Cogswell 1968a). A 43-ha Breeding Bird Survey plot of Diegan coastal sage scrub in San Diego Co., CA, contained 7.5–12.0 territories (Lovio 1993, Lovio 1993).

Population Status

Numbers

Few data; species elusive. No data from Mexico. Breeding Bird Survey (BBS) data (1966–1995) recorded an average relative abundance for

routes on which this species occurs of 1.2 birds (*n* = 92 routes; Peterjohn et al. 1996). BBS routes regularly recording high numbers—2 Arizona routes (Pena Blanca and Patagonia) and 1 Texas route (Indian Mtn.)—recorded 7-yr means of 40.6, 13.1, and 18.6 birds/route, respectively (Price et al. 1995). BBS data for continental U.S. (1966–1991) indicate highest relative abundance in s.-central Arizona, w.-central Texas, and sw. California (Price et al. 1995). BBS data from 1966 to 1991 recorded the following mean number of birds per BBS route per total routes: Arizona, 2.49/9 routes; California, 0.34/38; New Mexico, 0.25/9; Texas, 0.93/42; and Oklahoma, 0.03/6 (BBS unpubl.). Maximum winter abundance, on basis of occurrence at 95 Christmas Bird Counts (CBCs), was 3.8 birds encountered/party-hour (Root 1988b). Average number of individuals recorded per visit at winter bird population study sites include 0.13 bird in chaparral, San Bernardino Co., CA (Cornell Laboratory of Ornithology unpubl.); 0.6–0.8 in coastal scrub, Marin Co., CA (Dougill and Geupel 1992, Elias and Guepel Elias and Geupel 1993); 0.5 in coastal scrub/grassland, Orange Co., CA (Cornell Laboratory of Ornithology unpubl.); 0.1 in mesquite-hockberry (***Prosopis-celtis***), Pima Co., AZ (Tweit and Tweit 1991a); and 0.5–0.9 in Chihuahuan desert scrub, Dona Ana Co., NM (Sandell Sandell 1992, Sandell 1993).

Trends

The following is based on analysis of unpublished data from Breeding Bird Surveys. From 1966 to 1991, significant increases ($p < 0.05$) in breeding populations in Arizona (3.1%), Mexican Highlands physiographic region (3.1%), s. California (5.0%), and entire w. U.S. (3.6%). Populations declined significantly during same period in Oklahoma (–0.7%), Texas (–2.0%), Edwards Plateau, TX (–2.2%), Osaga Plain–Cross Timbers physiographic region (–10.5%), and Pinyon-Juniper Woodland physiographic region (–9.9%). Between 1982 and 1991, significant increases ($p < 0.05$) were recorded in populations in New Mexico (45.5%) and Intermountain Grasslands physiographic region (54.3%), while significant declines continued in populations in Texas (–8.1%), Osaga Plain–Cross Timbers (–5.8%), and Edwards Plateau (–10.1%). On basis of 114 BBS routes throughout breeding range, this species exhibited a 34.4% increase for 1966–1993 and a 2.6% increase (n = 84 BBS routes) for 1984–1993, but neither rate of change was significant (Price et al. 1995). Populations for U.S. and entire continent showed slight increase (0.1 and 0.7%, respectively) during 1966–1991, but increases were not significant. Overall trend for U.S. populations (n = 92 BBS routes) between 1966 and 1995 was stable (0.0% change; Peterjohn et al. 1996).

Population Regulation

Few data; needs study. Temporal and spatial segregation (see Behavior: social and interspecific behavior, above) help Rufous-crowned Sparrows minimize competition with congeners (Botteri's [*Aimophila botterii*] and Cassin's [*A. cassinii*] sparrows). Changes in structure of brushy cover play important role in population fluctuations. Episodic factors such as fire or light to moderate levels of grazing that tend to open dense stands of chaparral or coastal sage scrub improve habitat for Rufous-crowned Sparrows; known to invade areas of brush

recently swept by fire or other disturbances, such as grazing (Shuford 1993a, Jones 1998h, Collins 1999b). Abandons chaparral and coastal sage scrub if brush cover becomes too dense (Cogswell 1968a, Shuford 1993a). Fragmentation of suitable scrub-covered habitat adversely affects the relative abundance of Rufous-crowned Sparrows. In an urbanized area of coastal San Diego Co., CA, Rufous-crowned Sparrows were more abundant in larger patches of suitable coastal scrub habitat than in smaller, more fragmented patches (Bolger et al. 1997). They were less common in areas situated between 100 and 500 m of a habitat edge, perhaps as a result of reduced survival, reduced fecundity, or increased emigration from these areas (Bolger et al. 1997).

Occurrence of early spring and/or summer monsoonal rains in the Southwest is important factor regulating onset of breeding (see Breeding: phenology, above). Unknown to what extent the amount or duration of rainfall regulates breeding success. Rainfall does result in production of insect and seed crops, as well as protective herbaceous ground cover, all essential for breeding success (Wolf 1977).

Breeding **Conservation and Management**

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Sign Out

California Towhee

Green-tailed Towhee

Rufous-crowned Sparrow

Aimophila ruficeps

Order:PASSERIFORMES
Family:PASSERELLIDAE

Sections

Conservation and Management

Effects of Human Activity

Shooting And Trapping

No information.

Pesticides And Other Contaminants/Toxics

One report of Rufous-crowned Sparrows being poisoned by the rodenticide warfarin (Small 1952).

Ingestion Of Plastics, Lead, Etc

Not reported.

Collisions With Stationary/Moving Structure Or Objects

Not reported.

Degradation Of Habitat

Loss, degradation, and fragmentation of suitable open scrub habitats on moderate to steep slopes as result of urban and agricultural development have restricted the range of this species in s. California (Collins 1999b) and in n.-central and e. Texas (Pulich 1988b). In addition, long-term fire suppression since turn of twentieth century may also have contributed to reduction in numbers in California, by

allowing chaparral and coastal sage scrub habitats to grow into dense, decadent stands (Shuford 1993a, Burridge 1995). Placement of houses and irrigated orchards of trees such as avocadoes (***Persea americana***) and lemons (***Citrus limon***) on steeper slopes have resulted in widespread destruction and fragmentation of coastal sage scrub in San Diego, Orange, and sw. Riverside Cos. (Klopatek et al. 1979, Unitt 1984b, Minnich and Dezzani 1998). Moderate grazing and trampling by cattle on canyon slopes may benefit Rufous-crowned Sparrows by opening up dense shrub habitats (Jones 1998h). Unknown whether extensive grazing on public lands in w. U.S. has led to habitat degradation sufficient to result in population declines of Rufous-crowned Sparrow. It is known that if grazing is too intensive, such that available scrub cover becomes too sparse, then habitats normally used for breeding become unsuitable for the species (PWC).

Disturbance At Nest And Roost Sites

Little information; needs study. Females often remain on nest until intruder is within 0.5 m, which makes them vulnerable to detection by predators if nest site is visited repeatedly. Females sometimes abandon nests if disturbed repeatedly during nest-building, egg-laying, or incubation. Once a female has flushed from her nest, she will not return until the intruder or source of disturbance has moved away from nest site. In one case, a female delayed returning to her nest for almost 30 min even though the intruder was >15 m from nest (PWC).

Direct Human/Research Impacts

No information.

Management

Conservation Status

Not Endangered or Threatened in any part of its range. No direct efforts made to manage this species. However, declines in populations in s. California and portions of Texas suggest that larger, interconnected blocks of open scrub habitat suitable for maintaining this species over the long term should be preserved, particularly in areas under intense pressure from urban and irrigated or mechanized agricultural developments. Habitat preservation of open scrub habitats on moderate to steep slopes should be the principal management strategy. Because this species can apparently tolerate a moderate amount of disturbance from prescribed burning and moderate levels of grazing, and because it usually inhabits moderate to steep slopes, management of its populations elsewhere in California and in other southwestern states may not be needed. Demographic data on Mexican populations is required before the management needs of these populations can be determined.

Measures Proposed And Taken

Ashy Rufous-crowned Sparrow (***A. r. canescens***) is currently listed as a California Department of Fish and Game (CDFG) Species of Special Concern (California Department of Fish and Game 1994) and until recently (U.S. Fish and Wildlife Service [USFWS] U.S. Fish and Wildlife Service 1996f) was listed as a Federal Category-2 Candidate for possible listing as Threatened or Endangered (USFWS U.S. Fish and Wildlife

Service 1991b, U.S. Fish and Wildlife Service 1994c). Because this subspecies is considered a Species of Special Concern in California, it receives special consideration through the California Environmental Quality Act (CEQA) during the environmental review of proposed development projects. It is unknown to what extent this CEQA review process has helped maintain ***A. r. canescens*** populations in affected areas of s. California. Even though impacts on this species have been evaluated by the CEQA review process, ongoing fragmentation of coastal scrub habitats from urban and agricultural developments in coastal areas of s. California continues to have an adverse effect on Rufous-crowned Sparrow populations (see Demography and populations: population regulation, above).

Management of habitat for Rufous-crowned Sparrows in s. California should include (1) protecting larger, interconnected blocks of open coastal sage scrub on moderate slopes through the large-scale land-use planning process (e.g., development of Habitat and Natural Community Conservation Plans); (2) implementing controlled burn programs of decadent stands of chaparral and coastal sage scrub on private and public lands; and (3) limiting the intensity and duration of grazing in coastal sage scrub and chaparral habitats on moderate to steep slopes. Studies are needed to determine the timing and intensity of grazing, and the frequency at which scrub habitats can be burned in order to promote the type of open scrub habitats preferred by this species.

Effectiveness Of Measures

In nw. Santa Barbara Co., CA, Rufous-crowned Sparrows preferred regenerating coastal scrub habitats for the first 15 yr after a fire, but were less common in coastal scrub habitats that had not burned in more than 15 yr (Collins 1999b). This species apparently abandons coastal scrub and chaparral habitats when scrub becomes too dense or too uniform (Cogswell 1968a, Shuford 1993a, Collins 1999b).

Demography and Populations **Priorities for Future Research**

Introduction
Appearance
Systematics
Distribution, Migration, and Habitat
Diet and Foraging
Sounds and Vocal Behavior
Behavior
Breeding
Demography and Populations
Conservation and Management
Effects of Human Activity

Recommended Citation

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California Towhee

Green-tailed Towhee

Rufous-crowned Sparrow

Aimophila ruficeps

Order:PASSERIFORMES
Family:PASSERELLIDAE

Sections

Priorities for Future Research

Except for being the focus of a few intensive studies (Hubbard 1975, Wolf 1977, Groschupf 1983, Wimer 1995, Collins 1999b), and short notes by early-twentieth-century naturalists, the widely distributed Rufous-crowned Sparrow has been largely ignored by the ornithological community. It is one of the least studied of the widely distributed sparrows in North America. It has probably been ignored because of its secretive habits and its predilection for inaccessible arid, brushy, and rock-covered slopes. To conduct field studies of Rufous-crowned Sparrows will require ingenuity, determination, keen observational skills, and luck to achieve success. Basic descriptive studies are needed to address data gaps that exist in nearly all aspects of the life history of this species-particularly its breeding biology, food habits, behavior, behavioral ecology, population biology, and evolutionary biology. Some of the most divergent races (***obscura***, ***sanctorum***, ***sororia***, ***phillipsi***, ***duponti***, and ***australis***) are the least studied. Study of populations during the fall and winter, and careful analysis of birds found away from known breeding locales, would be helpful in determining whether any populations of this species migrate.

A genetic revision that uses mitochondrial DNA and electrophoretic loci is needed to help clarify the phylogenetic relationships of the 12 species currently included in the genus ***Aimophila*** . Detailed morphological, developmental, and genetic investigations would help answer lingering questions pertaining to the infraspecific nomenclature of the Rufous-crowned Sparrow. The taxonomic relationships of

geographically isolated populations of this species in eastern California (desert mountain ranges), southern Nevada, southwestern Utah, southeastern Colorado, and Kansas need to be clarified.

Conservation and Management

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California Towhee
Green-tailed Towhee

Rufous-crowned Sparrow

Aimophila ruficeps

Order:PASSERIFORMES
Family:PASSERELLIDAE

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References

Alcorn, J. R. (1988). The birds of Nevada. Fallon, NV: Fairview West Publ.

American Ornithologists' Union (1983). Check-list of North American Birds, 6th ed. American Ornithologists' Union, Washington, DC.

American Ornithologists' Union. 1998. Check-list of North American birds. 7th edition Washington, D.C.: American Ornithologists' Union.

American Ornithologists' Union. (1957). Check-list of North American birds, 5th ed. Washington, D.C: Am. Ornithol. Union.

Andrews, P. and R. Righter (1992). Colorado birds. Denver Museum of Natural History, Denver, CO.

Bailey, A. A. and R. J. Niedrach (1965). Birds of Colorado. Denver Museum of Natural History, Denver, CO.

Bailey, F. M. (1917b). Handbook of birds of the western United States; including the Great Plains, Great Basin, Pacific Slope, and lower Rio Grande valley. Rev. ed. Boston, MA: Houghton Mifflin Co.

Bailey, F. M. (1928b). Birds of New Mexico. Santa Fe, New Mexico: New Mexico Dept. of Game and Fish.

Baird, S. F. (1858a). Part 2. General report upon the zoology of the several Pacific railroad routes. Reports of explorations and surveys to ascertain the most practicable and economical route for a railroad from the Mississippi River to the Pacific Ocean, 1853-1856. Vol. 9. Washington: War Dept.

Balda, R. P. (1969). Foliage use by birds of the oak-juniper woodland and ponderosa pine forest in southeastern Arizona. Condor no. 71:399-412.

Balda, R. P. (1970). Effects of spring oak-fall on composition and density of breeding birds in two southern Arizona woodlands. Condor no. 72:325-331.

Banta, J. K. (1985). Early date for Rufous-crowned Sparrow nest in Oklahoma. Bull. Okla. Ornithol. Soc. no. 18:15-16.

Barlow, C. (1902). Some observations on the Rufous-crowned Sparrow. Condor no. 4:107-111.

Baumgartner, E. M. and A. M. Baumgartner (1992). Oklahoma bird life. University of Oklahoma Press, Norman, OK.

Behle, W. H., E. D. Sorenson and C. M. White. (1985). Utah birds: a revised checklist. Univ. of Utah, Salt Lake City: Utah Mus. Nat. Hist.

Binford, L. C. (1989a). A distributional survey of the birds of the Mexican state of Oaxaca. Ornithol. Monogr. no. 43.

Bolger, D. T., T. A. Scott and J. T. Rotenberry. (1997). Breeding bird abundance in an urbanizing landscape in coastal southern California. Conserv. Biol. no. 11:406-421.

Borror, D. J. (1971). Songs of ***Aimophila*** sparrows occurring in the United States. Wilson Bull. no. 83:132-151.

Brandt, H. (1951). Arizona and its bird life: a naturalist's adventures with the nesting birds on the deserts, grasslands, foothills, and mountains of southeastern Arizona. Cleveland, OH: The Bird Research Foundation.

Brewster, W. (1879c). Notes on the habits and distribution of the rufous-crowned sparrow (***Peucaea ruficeps***). Bull. Nuttall Ornithol. Club no. 4:47-48.

Brown, B. T., S. W. Carothers and R. R. Johnson. (1987a). Grand Canyon birds: historical notes, natural history, and ecology. Tucson: Univ. of Arizona Press.

Brown, N. C. (1882b). Description of a new race of ***Peucaea ruficeps*** from Texas. Bull. Nuttall Ornithol. Club no. 7:26.

Burleigh, R. D. and Jr. Lowery, G. H. (1942). Notes on the birds of southeastern Coahuila. Occas. Pap. Mus. Zool. La. State Univ. no. 12:185-212.

Burridge, B. (1995). Sonoma county breeding bird atlas: detailed maps and accounts for our local nesting birds. Sebastopol, CA: Madrone Audubon Soc.

Byers, C., J. Curson, and J. Olsson. (1995). Sparrows and Buntings: A Guide to the Sparrows and Buntings of North America and the World. Houghton Mifflin Company, New York, USA.

Cassin, J. (1852b). Descriptions of new species of Birds, specimens of which are in the collection of the Academy of Natural Sciences of Philadelphia. Proc. Acad. Nat. Sci. Phila. no. 6:184-188.

Cody, M. L. (1974). Competition and structure of bird communities. Princeton, NJ: Princeton Univ. Press.

Cogswell, H. L. (1968a). "***Aimophila ruficeps canescens*** Ashy Rufous-crowned Sparrow." In Life histories of North American cardinals, grosbeaks, buntings, towhees, finches, sparrows, and allies., edited by Jr O. L. Austin, 943-954. U.S. Nat. Mus. Bull. 237.

Cogswell, H. L. (1968b). "***Aimophila ruficeps ruficeps*** California Rufous-crowned Sparrow." In Life histories of North American cardinals, grosbeaks, buntings, towhees, finches, sparrows, and allies., edited by Jr O. L. Austin, 931-940. U.S. Nat. Mus. Bull. 237.

Collins, P. W. (1999b). "Species account on Rufous-crowned Sparrow (***Aimophila ruficeps***)." In Distribution and habitat associations of six bird species of special concern at Vandenberg Air Force Base, Santa Barbara County, California., edited by M. A. Holmgren and P. W. Collins, 99-150. Santa Barbara Mus. Nat. Hist. Monogr. no. 1. Stud. Biodiversity no. 1.

Dawson, W. L. (1923). The birds of California: A complete, scientific and popular account of the 580 species and subspecies of birds found in the state. Vol. 2. South Moulton, San Diego, CA.

Dickey, D. R. and A. J. Van Rossem. (1923a). Additional notes from the coastal islands of southern California. Condor no. 25:126-129.

Doss, M. A., M. M. Farr, K. F. Roach and G. Anastos. (1974). Ticks and Tickborne Diseases II. Hosts. Part 1: A-F. U.S. Dept. of Agric.

Dougill, S. and G. R. Geupel. (1992). 33. Coastal Scrub. J. Field Ornithol. no. 63 (Supplement):25.

Dunning, J.B., Jr. (1993). CRC handbook of avian body masses. Boca Raton, FL: CRC Press.

Elias, E. and G. R. Geupel. (1993). 33. Coastal Scrub. J. Field Ornithol. no. 64 (Supplement):23-24.

Ellison, K. S. (1998a). The relative effects of nest predation and brood parasitism on four passerine birds in southern California coastal sage scrub. Master's Thesis, Univ. of California, Riverside.

Esterly, C. O. (1920). A plague of Rufous-crowned Sparrows. Condor no. 22:154.

Fish, California Department of and Game. (1994). California Department of Fish and Game Natural Diversity data base: special animals. Sacramento, CA (August 1994). Calif. Dep. Fish and Game.

Fish, U.S. and Wildlife Service. (1991b). Endangered and threatened wildlife and plants: animal candidate review for listing as endangered or threatened species, proposed rule. Federal Register no. 56 (225):58804-58836.

Fish, U.S. and Wildlife Service. (1994c). Endangered and threatened wildlife and plants; animal candidate review for listing as endangered or threatened species. Federal Register no. 59 (219):58982-59028.

Fish, U.S. and Wildlife Service. (1996f). Endangered and threatened wildlife and plants; review of plant and animal taxa that are candidates for listing as threatened or endangered species. Federal Register no. 61 (40):7596-7613.

Friedmann, H. (1971). Further information on the host relations of the parasitic cowbirds. Auk no. 88 (2):239-255.

Friedmann, H., L. Griscom and R. Moore. (1957). Distributional checklist of the birds of Mexico, Pt II. Pac. Coast Avifauna no. 33.

Gaines, D. (1977). Birds of the Yosemite Sierra: a distributional survey. Oakland: California Syllabus.

Gaines, D. (1988). Birds of Yosemite and the east slope. Lee Vining, CA: Artemisia Press.

Garrett, K. and J. Dunn. (1981). Birds of southern California: status and distribution. Los Angeles, CA: Los Angeles Audubon Soc.

Grinnell, J. (1928b). A distribution summation of the ornithology of Lower California. Univ. of Calif. Publ. Zool. no. 32:1300.

Grinnell, J. and A. H. Miller. (1944). The distribution of birds of California. Pac. Coast Avifauna no. 27:1-608.

Groschupf, K. D. (1983). Comparative study of the vocalizations and singing behavior of four ***Aimophila*** sparrows. Phd Thesis, Virginia Polytechnic Institute and State Univ., Blacksburg.

Hanna, W. C. (1924). Weights of about three thousand eggs. Condor no. 26:146-153.

Harrison, C. J. O. (1978a). A Field Guide to the nests, eggs and nestlings of North American birds. Toronto: Collins.

Hayward, C. L., C. Cottam, A. M. Woodbury and H. H. Frost. (1976a). Birds of Utah. Great Basin Nat. Mem. no. 1.

Heaton, H. L. (1928). The rufous-crowned sparrow. Oologist no. 45:53.

Hoffman, R. (1927). Birds of the Pacific states: containing brief biographies and descriptions of about four hundred species with special references to their appearance in the field. Boston, MA: Houghton-Mifflin Co.

Howell, S. N. G. and S. Webb. (1995). A Guide to the Birds of Mexico and Northern Central America. Oxford University Press, New York, USA.

Hubbard, J. P. (1975). Geographic variation in non-California populations of the Rufous-crowned Sparrow. Occas. Pap. Del. Mus. Nat. Hist., no. 15:1-28.

Hubbard, J. P. (1978). Revised check-list of the birds of New Mexico. New Mexico Ornithological Society Publication no. 6.

James, D. A. and J. C. Neal. (1986). Arkansas birds: Their distribution and abundance. Fayetteville: Univ. of Arkansas Press.

Johnsgard, P. A. (1979a). Birds of the Great Plains : breeding species and their distribution. Lincoln: University of Nebraska Press.

Johnson, O. W. (1968a). Some morphological features of avian kidneys. Auk no. 85:216-228.

Jones, R. (1998a). The next new ABA birds. Southern Arizona and Southwestern New Mexico. Birding no. 30 (6):484-491.

Jones, S. R. (1998h). "Rufous-crowned Sparrow." In Colorado breeding bird atlas., edited by H. E. Kingery, 452-453. Denver: Colorado Bird Atlas Partnership and Colorado Div. Wildl.

Kaeding, H. B. (1905). Birds from the west coast of Lower California and adjacent islands. Condor no. 7:105111.

Kaufman, K. (1996). Lives of North American birds. New York: Houghton Mifflin Co.

Klimkiewicz, K. and A. G. Futcher. (1987). Longevity records of North American birds: Coerebinae through Estrildidae. J. Field Ornithol. no. 58:318-333.

Klopatek, J. M., R. J. Olson, C. J. Emerson and J. L. Joness. (1979). Land-use conflicts with natural vegetation in the United States. Environmental Conservation no. 6 (3):191-199.

Ligon, J. S. (1961). New Mexico birds and where to find them. Albuquerque: University of New Mexico Press.

Linton, C. B. (1908c). Notes from Santa Cruz Island. Condor no. 10:124-129.

Lovio, J. C. (1993). Diegan coastal sage scrub I. Breeding bird census. J. Field Ornithol. no. 64:95-96.

Mailliard, J. (1900b). Land birds of Marin County, California. Condor no. 2:62-68.

Maler, P. and D. Issac. (1961). Song variation in a population of Mexican Juncos. Wilson Bull. no. 73:193-206.

Marshall, Jr., J. T. (1957). Birds of pine-oak woodland in southern Arizona and adjacent Mexico. Pac. Coast Avifauna no. 32.

Martin, A. C., H. S. Zim and A. L. Nelson. (1951). American wildlife and plants: a guide to wildlife food habits: the use of trees, shrubs, weeds, and herbs by birds and mammals of the United States. New York: Dover Publ. Inc.

Martin, P. S., C. R. Robins and W. B. Heed. (1954). Birds and biogeography of the Sierra de Tamaulipas, an isolated pine-oak habitat. Wilson Bull no. 66 (1):38-57.

McClure, H. E. (1984b). The occurrence of hippoboscid flies on some species of birds in southern California. Journal of Field Ornithology no. 55 (2):230-240.

Miles, D. B. (1986a). A record of brown-headed cowbird (***Molothrus ater***) nest parasitism of rufous-crowned sparrows (***Aimophila ruficeps***). Southwest. Nat. no. 31:253-254.

Miller, A. H. (1955c). The avifauna of the Sierra del Carmen of Coahuila, Mexico. Condor no. 57 (3):154-178.

Miller, A. H., H. Friedman, L. Griscom and R. T. Moore. (1957). Distributional Check-list of the Birds of Mexico, Part 2. Pacific Coast Avifauna no. 33.

Mills, S., J. Silliman, K. Groschupf and S. Speich. (1980). Life history of the Five-striped Sparrow. Living Bird no. 18:95-110.

Minnich, R. A. and R. J. Dezzani. (1998). Historical decline of coastal Sage Scrub in the Riverside-Perris Plain, California. West. Birds no. 29:366-391.

Monson, G. and A. R. Phillips. (1964). A check-list of the birds of Arizona. Tucson: Univ. of Arizona Press.

Murdock, J. and H. L. Cogswell. (1942). Foothill Chaparral. Audubon Mag., Sect. no. 2:21.

Myers, H. W. (1909a). Nesting habits of the Rufous-crowned Sparrow. Condor no. 11:131-134.

Nelson, E. W. (1897b). Preliminary descriptions of new birds from Mexico and Guatemala in the collection of the United States Department of Agriculture. Auk no. 14:42-76.

Nice, M. M. (1929d). Vocal Performances of the Rock Sparrow in Oklahoma. Condor no. 31:248-249.

Nice, M. M. (1931b). The birds of Oklahoma, revised edition. Publication of the Univ. Oklahoma, Biol. Sur. no. 3.

Oberholser, H. C. (1974). The Bird Life of Texas. University of Texas Press, Austin, TX, USA.

Patten, M. A. and M. Fugate. (1998). Systematic relationships among the Emberizid sparrows. Auk no. 115 (2):412-424.

Paynter, R. A., Jr. (1970). Subfamily Emberizinae. In Check-list of Birds of the World (R. A. Paynter, Jr., and R. W. Storer, Editors), Museum of Comparitive Zoology, Cambridge, MA, USA. pp. 3-214.

Pease, C. M. and J. A. Grzybowski. (1995). Assessing the consequences of brood parasitism and nest predation on seasonal fecundity in passerine birds. Auk no. 112 (2):343-363.

Pemberton, J. R. (1910). Notes on the Rufous-crowned Sparrow. Condor no. 12:123-125.

Peterjohn, B. G., J. R. Sauer and W. A. Link. (1996). The 1994 and 1995 summary of the North American Breeding Bird Survey. Bird Popul. no. 3:48-66.

Phillips, A. R. (1966a). Further systematic notes on Mexican birds. Bull. Br. Ornithol. Club no. 86:86-94, 103-112, 125-131, 148-159.

Phillips, A. R. (1968e). "***Aimophila ruficeps eremoeca*** (Brown) Rock Rufous-crowned Sparrow." In Life histories of North American cardinals, grosbeaks, buntings, towhees, finches, sparrows, and allies., edited by Jr O. L. Austin, 919-923. U.S. Nat. Mus. Bull. 237.

Phillips, A. R. (1968f). "***Aimophila ruficeps scottii*** (Sennett) Scott's Rufous-crowned Sparrow." In Life histories of North American cardinals, grosbeaks, buntings, towhees, finches, sparrows, and allies., edited by Jr O. L. Austin, 923-930. U.S. Nat. Mus. Bull. 237.

Phillips, A. R., J. T. Marshall, Jr., and G. B. Monson (1964). The Birds of Arizona. University of Arizona Press, Tucson, AZ, USA.

Phillips, H. W. and W. A. Thornton. (1949). The summer resident birds of the Sierra Vieja range of south-western Texas. Tex. J. Sci. no. 1:101-131.

Price, J. P., S. Droege and A. Price. (1995). The summer atlas of North American birds. New York: Academic Press.

Pulich, W. M. (1988b). The birds of North Central Texas. College Station: Texas A&M Univ. Press.

Pulliam, H. R. and G. S. Mills. (1977). The use of space by wintering sparrows. Ecology no. 58:1393-1399.

Pyle, P. (1997). Identification Guide to North American Birds Part I: Columbidae to Ploceidae. Slate Creek Press, Bolinas, CA, USA.

Rea, A. (1983a). Once a river: bird life and habitat changes on the middle Gila. Tucson: Univ. of Arizona Press.

Remsen, Jr., J. V. and S. Cardiff. (1979). First records of the race ***scottii*** of the Rufous-crowned Sparrow in California. West. Birds no. 10:45-

46.

Ridgway, R. (1898a). Descriptions of supposed new genera, species, and subspecies of American birds, I. Fringillidae. Auk no. 15:223-230.

Ridgway, R. (1899b). On the generic name ***Aimophila*** versus ***Peucaea***. Auk no. 16:80-81.

Ridgway, R. (1901). The birds of North and Middle America, Pt. 1. Bull. U.S. Natl. Mus. no. 50.

Rising, J. D. (1996). A Guide to the Identification and Natural History of the Sparrows of the United States and Canada. Academic Press, NY, USA.

Roberson, D. (1985). Monterey County birds: status and distribution of birds in Monterey County, California. Carmel, CA: Monterey Peninsula Audubon Soc.

Roberson, D. and C. Tenney. (1993). Atlas of the breeding birds of Monterey County, California. Carmel: Monterey Peninsula Audubon Soc.

Root, T. R. (1988). Atlas of wintering North American birds: an analysis of Christmas Bird Count data. University of Chicago Press, Chicago, IL.

Rosenberg, G. H. and D. Stejskal. (1995). "Annotated checklist and seasonal bar graphs." In Davis and Russell's Finding Birds in Southeastern Arizona, 226-295. Tucson, AZ: Tucsopn Audubon Soc.

Rowley, J. S. (1966). Breeding records of birds of the Sierra Madre del Sur, Oaxaca, Mexico. Proc. West. Found. Vertebr. Zool. no. 1 (3).

Rowley, J. S. (1984). Breeding records of landbirds in Oaxaca, Mexico. Proc. West. Found. Vertebr. Zool. no. 2:74-224.

Russell, S. M. and G. Monson. (1998). The birds of Sonora. Tucson: Univ. of Arizona Press.

Sandell, C. I. (1992). 36. Chihuahuan Desert Scrub. J. Field Ornithol. no. 63 (Supplement):26-27.

Sandell, C. I. (1993). 36. Chihuahuan Desert Scrub. J. Field Ornithol. no. 64 (Supplement):25.

Schaldach, Jr., W. J. (1963). The avifauna of Colima and adjacent Jalisco, Mexico. Proc. West. Found. Vertebr. Zool. no. 1 (1).

Sclater, P. L. (1867b). ***Zonotrichia boucardi***. Proc. Zool. Soc. London no. 1867:1-2.

Scott, W. E. D. (1885b). On the breeding habits of some Arizona birds. Auk no. 2:159-165.

Sennett, G. B. (1888). Notes on the ***Peucaea ruficeps*** group, with descriptions of a new subspecies. Auk no. 5:40-42.

Shuford, D. W. (1993a). The Marin County breeding bird atlas: A distributional and natural history of coastal California birds. Bolinas: Bushtit Books.

Simmons, G. F. (1925). Birds of the Austin region. Austin, TX: Univ. of Texas Press.

Simpson, R. (1925b). Photographing the rufous-crowned sparrow. Condor no. 27:97-98.

Small, A. (1952). Southern Pacific Coast region. Audubon Field Notes no. 6 (1):39.

Small, A. (1994). California Birds: Their Status and Distribution. Ibis Publishing Company, Vista, CA, USA.

Smith, A. P. (1917). Some birds of the Davis Mountains, Texas. Condor no. 19:161-165.

Stager, K. E. (1954). Birds of the Barranca de Cobre region of southwestern Chihuahua, Mexico. Condor no. 56:21-32.

Sutton, G. M. (1934b). Notes on the birds of the western panhandle of Oklahoma. Ann. Carnegie Mus. no. 24:1-50.

Sutton, G. M. (1967b). Oklahoma birds, their ecology and distribution with comments on the avifauna of the southern Great Plains. Norman, OK: Univ. of Oklahoma Press.

Tenney, C. R. (1997). "Black-chinned Sparrow (***Spizella atrogularis***)." In The birds of North America. no. 270., edited by A. Poole, P. Stettenheim and F. Gill. Washington, D.C: Acad. of Nat. Sci., Philadelphia, and Am. Ornithol. Union.

Thompson, M. C. and C. Ely. (1992). Birds in Kansas, Vol. II. Univ. Kans. Mus. Nat. Hist. Public Ed. Ser. no. 12.

Thorpe, W. H. (1956). The language of birds. Scientific Am. no. 195 (4):128-138.

Todd, W. E. C. (1922). A new sparrow from southern California. Condor no. 24:126-127.

Tweit, J. C. and R. C. Tweit. (1991a). 30. Mesquite-Hackberry Dominated Canyon. J. Field Ornithol. no. 62 (Supplement):23-24.

Unitt, P. (1984b). The birds of San Diego County. San Diego Soc. Nat. Hist. Mem. no. 13:1-276.

Van Rossem, A. J. (1947b). Comment on certain birds of Baja California, including descriptions of three new races. Proc. Biol. Soc. Wash. no. 60:51-58.

Van Tyne, J. and G. M. Sutton. (1937). The birds of Brewster County, Texas. Misc. Publ. Mus. Zool. Univ. Mich. no. 37:1-115.

Wauer, R. H. (1965b). Wintering Rufous-crowned Sparrows found in Utah. Condor no. 67:447.

Wauer, R. H. (1967b). New status for the Rufous-crowned Sparrow in Utah. Wilson Bull. no. 79:348-349.

Wauer, R. H. (1985). A Field Guide to birds of the Big Bend. Austin: Texas Monthly Press.

Wauer, R. H. (1997). Birds of Zion National Park and vicinity. Logan: Utah State Press.

Webb, E. A. and C. E. Bock. (1996). "Botteri's Sparrow (***Aimophila botterii***)." In The birds of North America. no. 216., edited by A. Poole and F. Gill. Washington, D.C: Acad. of Nat. Sci., Philadelphia, and Am. Ornithol. Union.

Webb, Jr., J. P., S. G. Bennett and G. L. Challet. (1990). The larval ticks of the Genus ***Ixodes*** Latreille (Acari: Ixodidae) of California. Bull. Soc. Vector Ecol. no. 15:73-124.

Webster, J. D. and R. T. Orr. (1954b). Summering birds of Zacatecas, Mexico, with a description of a new race of Worthen sparrow. Condor no. 56:155-160.

Wilbur, S. R. (1987). The birds of Baja California. Berkeley: Univ. of California Press.

Willard, F. C. (1912b). Breeding of the Scott Sparrow. Condor no. 14:195-196.

Williams, G. G. (1950b). Weather and spring migration. Auk no. 67:52-65.

Williams, L. P. (1897). Notes on the nesting of the Rufous-crowned Sparrow. Osprey no. 2:27-28.

Wimer, M. C. (1995). Song variation in insular and mainland Rufous-crowned Sparrows. Master's Thesis, California State Univ., Long Beach.

Wolf, L. L. (1977). Species relationships in the avian genus ***Aimophila***. Ornithol. Monogr. no. 23 (and supplement).

Wood, D. S. and G. D. Schnell. (1984). Distributions of Oklahoma birds. Norman: Univ. of Oklahoma Press.

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