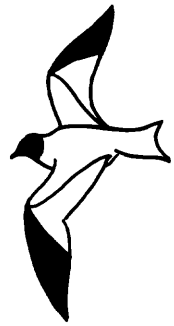


WESTERN BIRDS



Volume 24, Number 4, 1993

BREEDING BIRDS OF FOUR ISOLATED MOUNTAINS IN SOUTHERN CALIFORNIA

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The breeding avifaunas of Figueroa Mountain and Big Pine Mountain in Santa Barbara County and Pine Mountain and Mount Pinos in Ventura and Kern counties are of great ornithological interest. These four mountains support islands of coniferous forest separated by other habitats at lower elevations. Little information on the birds of the first three has been published previously.

From 1981 to 1993, I, with the help of a number of observers, censused the summer resident birds of these four mountains, paying particular attention to the species restricted to high elevations. By comparing these avifaunas with each other, as well as with those of the San Gabriel, San Bernardino, and San Jacinto mountains, and the southern Sierra Nevada, I hope to add to current knowledge of the status and distribution of montane birds in southern California.

VEGETATION AND GEOGRAPHY

The pattern of vegetation in the survey areas is typical of that found on many southern California mountains. Generally, the south- and west-facing slopes of the mountains are covered with chaparral or pinyon-juniper woodland almost to the summits. On the north-facing slopes, however, cooler temperatures and more mesic conditions support coniferous forest, which often reaches far down the mountainsides. Because the climate is arid, few creeks or streams flow at high elevations, and most water is available in the form of seeps or small springs.

Both Figueroa (4528 feet, 1380 m) and Big Pine (6828 feet, 2081 m) mountains are located in the San Rafael Range, the southernmost of the Coast Ranges (Figure 1, Norris and Webb 1990). The San Rafael Mountains are bordered by the Sierra Madre, a low chaparral-covered range, to the north and the Cuyama Valley to the northeast. The Sisquoc River drains west from the San Rafael Mountains and Sierra Madre to the Santa Maria River. To the south lies the foothill grassland of the Santa Ynez Valley.

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The vegetation of the Figueroa Mountain area (including Ranger Peak, 4652 feet, 1396 m) is a mixed forest of oaks and conifers with patches of chaparral and foothill grassland (Barbour and Major 1988). Above 3500 feet (1067 m) the forest is dominated by Ponderosa Pine (*Pinus ponderosa*) and Coulter Pine (*P. coulteri*), heavily interspersed with Canyon Live Oak (*Quercus chrysolepis*), Coast Live Oak (*Q. agrifolia*), and California Bay (*Umbellularia californica*). On the north sides of Figueroa Mountain and Ranger Peak stands of Big-Cone Spruce or Douglas-Fir (*Pseudotsuga macrocarpa*) grow on the steep slopes and in shaded canyons. Most of the understory shrubs are chaparral species such as manzanita (*Arctostaphylos* sp.), Toyon (*Heteromeles arbutifolia*), and Coffeeberry (*Rhamnus californica*) (Figures 2 and 3).

Big Pine Mountain is 19 miles (30 km) east of Figueroa Mountain and possesses more extensive coniferous forest (Figure 4). Chaparral covers the south-facing slope almost to the summit, but the vegetation near the summit and on the north slope is a mixed montane coniferous forest. Here, Jeffrey Pine (*Pinus jeffreyi*), Sugar Pine (*P. lambertiana*), White Fir (*Abies concolor*), and Incense Cedar (*Calocedrus decurrens*) furnish a dense canopy of tall conifers at elevations above approximately 5800 feet (1768 m). Within the coniferous forest are patches of montane chaparral: Bitter Cherry (*Prunus emarginata*), Western Chokecherry (*Prunus virginiana* var. *demissa*), Deer Brush (*Ceanothus integerrimus*), and Chaparral Whitethorn (*C. leucodermis*). On the east and west-facing slopes, [e.g., on

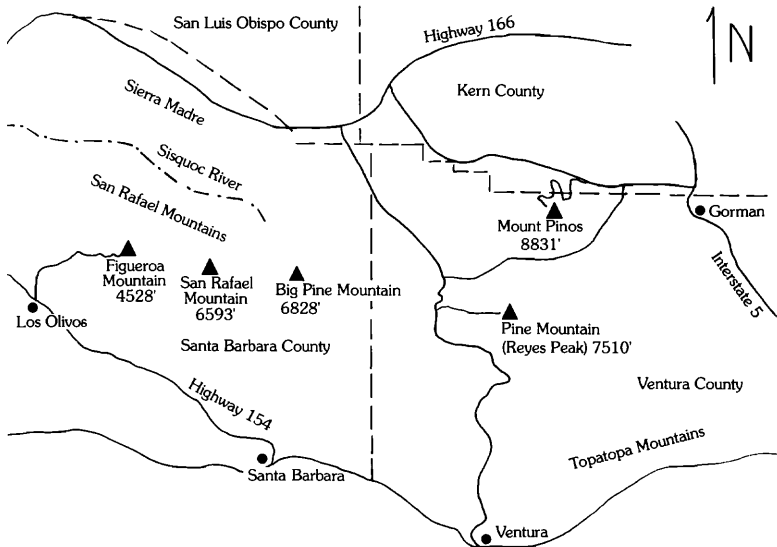


Figure 1. The four isolated mountains surveyed in Santa Barbara, Ventura, and Kern counties.

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West Big Pine (6490 feet, 1978 m) and toward Madulce Peak], a drier Jeffrey Pine woodland predominates. Down a deep canyon on the north slope, the trail to Lower Bear Campground winds through a mesic area of mostly Incense Cedar with Canyon Live Oak and some Ponderosa Pine. A forest of Coulter Pine stretches across the southeast flank of the mountain in the vicinity of Alamar Saddle (Figure 5).

Approximately 19 miles (30 km) east of Big Pine Mountain, the narrow forested ridge of Pine Mountain extends east-west for approximately 9 miles (14.4 km) (Figure 6). It is a succession of summits, the highest being Reyes Peak (7510 feet, 2289 m). Bordered to the south by the Sespe Creek drainage and to the north by portions of the Cuyama and Lockwood valleys, Pine Mountain is surrounded by chaparral and pinyon-juniper woodland that reaches almost to the summit on south-facing slopes. Above 6000 feet (1829 m), Jeffrey and scattered Ponderosa pines grow in a dry, open forest along the boulder-strewn ridgetop. Down the steep north slope, several of the narrow canyons support a more mesic forest of Sugar Pine and White Fir, (e.g., along the Raspberry Spring trail and on the north side of Reyes Peak). Bitter Cherry, Chaparral Whitethorn, and Deer Brush mingle with Wax Currant (*Ribes cereum*) and Mountain Snowberry

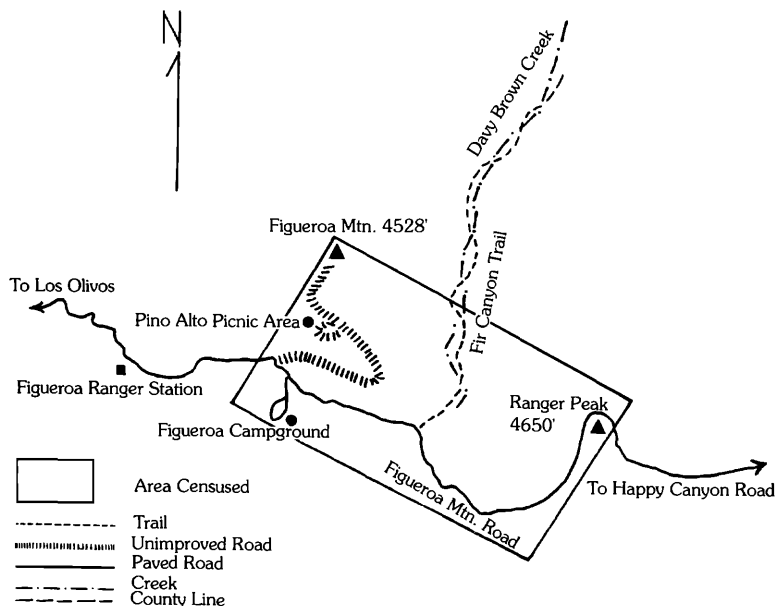


Figure 2. Detail of Figueroa Mountain, Santa Barbara County. The total area surveyed, above 3500 feet elevation, was about 1.3 square miles (3.4 km²), out of a total forested area of about 2 square miles (5.2 km²).

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(*Symphoricarpos parrishii*) in a few forest openings, but the understory is never dense (Figure 7).

Mount Pinos (8831 feet, 2692 m) lies 16 miles (26 km) northeast of Pine Mountain. It is the highest point in a mass of mountains—including Mount Abel, Sawmill Mountain, and Grouse Mountain—separated from other ranges by intervening low divides and elevated valleys covered with sagebrush (*Artemisia tridentata*). The Mount Pinos region provides an ecological link with the Sierra Nevada and Tehachapi Mountains to the northeast and the Transverse Ranges of southern California to the southeast.

The Mount Pinos area (Figure 8) has the most montane habitat in the survey area. At approximately 6250 feet (1905 m), the lower slopes of pinyon-juniper mixed with sagebrush give way to a Jeffrey Pine woodland on the south and east slopes. On the north slopes, White Fir and Jeffrey Pine form a moister forest, as along the trail to Grouse Mountain and along Fir Ridge Road on Mount Pinos. California Black Oak (*Quercus kelloggii*) and Canyon Live Oak mix with the pine-fir forest in the canyons, particularly along the McGill trail on Mount Pinos. Above 8000 feet (2438 m), the vegetation resembles the montane subalpine forest found in the Transverse and Peninsular ranges of southern California (Barbour and Major 1988).



Figure 3. Coniferous forest on Figueroa Mountain. Note the typical conifer and oak mixture with Big-Cone Spruce and Canyon Live Oak making a dense canopy down north-facing canyons.

Photo by Joan Easton Lentz

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The summit of Mount Pinos supports an open woodland of Limber Pine (*Pinus flexilis*) and Jeffrey Pine (Barbour and Major 1988).

Montane chaparral here generally occurs in dense patches on exposed, steep, or rocky areas and is very similar to that found in the southern Sierra Nevada, San Gabriel, San Bernardino, and San Jacinto ranges (Barbour and Major 1988). The common shrubs are currants and gooseberries (*Ribes* spp.), Snow Bush (*Ceanothus cordulatus*), and manzanita. Very small meadows grow at Iris Meadow on Mount Pinos, Sheep Camp on Sawmill Mountain and at occasional roadside seeps on Mount Pinos and Mount Abel. These sustain a number of grasses and herbs also found in alpine meadows in the southern Sierra Nevada and the San Gabriel, San Bernardino, and San Jacinto mountains (Figure 9).

CLIMATE

The climate of the areas studied is Mediterranean, with dry, warm summers and wet, cool winters. With the exception of an occasional thunderstorm, very little rain falls during the summer. Average annual precipitation for Figueroa Mountain is 21 inches, for Big Pine Mountain, 34 inches, for Pine Mountain, 23 inches, and for Mount Pinos 23 inches

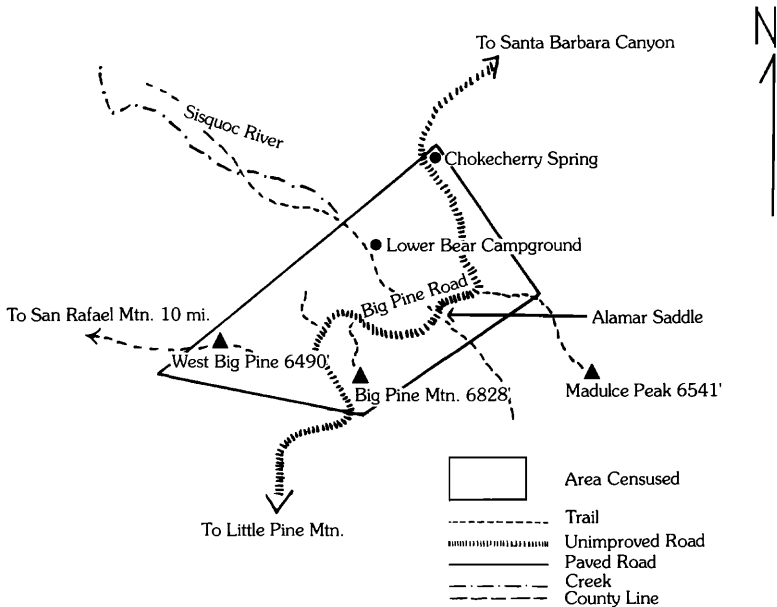


Figure 4. Detail of Big Pine Mountain, Santa Barbara County. The total area surveyed, above 5300 feet elevation, was about 4.5 square miles (11.7 km²), out of a total forested area of about 5 square miles (13 km²).

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(Santa Barbara and Ventura County Flood Control personnel, pers. comm.). On Big Pine Mountain, Pine Mountain, and Mount Pinos, much of the precipitation falls in the form of winter snow. Average summer temperatures range from daytime highs of 80 to 85°F (27–29°C) to nighttime lows of 52–56°F (11–13°C) (U. S. Forest Service personnel, Santa Barbara District, pers. comm.).

From 1984 through 1990, precipitation in Santa Barbara and Ventura Counties—as in much of southern California—was well below average, possibly affecting both the diversity and abundance of montane species frequenting the areas studied.



Figure 5. Coniferous forest on Big Pine Mountain. This view is along the Big Pine Mountain Road, showing Sugar Pine, White Fir, and Incent Cedar at approximately 6200 feet elevation.

Photo by Joan Easton Lentz

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ORNITHOLOGICAL HISTORY

Mount Pinos has received considerable attention since Joseph Grinnell camped in the area in June and July 1904 (Grinnell 1905). Grinnell and Swarth (1913) described the boreal fauna of the San Jacinto Mountains and compared it with that of other mountains of southern California, including Mount Pinos. Alden H. Miller and Seth Benson (1930) reported on additional species observed on Mount Pinos during the 1920s, recording eight boreal birds not encountered by Grinnell. Willett (1933) summarized the status and distribution of southern California's birds, including records from the Mount Pinos area. Grinnell and Miller (1944) mapped many records from Mount Pinos. Finally, Miller (1951) analyzed the bird geography of California, incorporating the Mount Pinos region.

The wealth of information available for the Mount Pinos region is in sharp contrast to the paucity of knowledge about the other mountains I surveyed. William Leon Dawson, author of *The Birds of California* (1923),

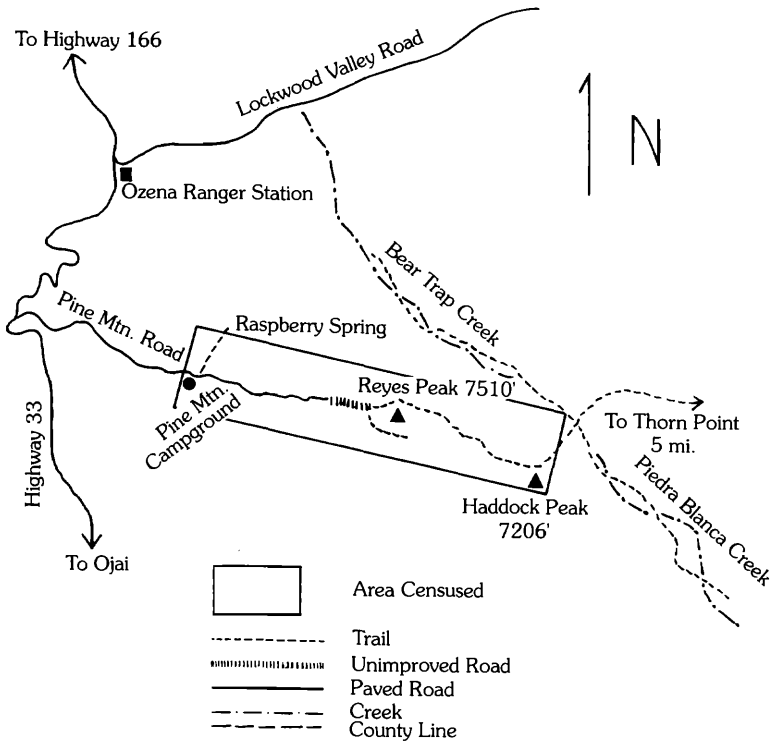


Figure 6. Detail of Pine Mountain, Ventura County. The total area surveyed, above 6000 feet elevation, was about 5.5 square miles (14.3 km²), out of a total forested area of about 10 square miles (26 km²).

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worked in the Santa Barbara/Ventura region but almost exclusively on the coastal plain. Neither Willett (1933) nor Grinnell and Miller (1944) gave details of bird distribution in the higher mountains of Santa Barbara or Ventura counties other than Mount Pinos. Miller (1951:588) indicated the Big Pine Mountain area on a map of boreal districts of California, but he did not include such "very small detached boreal areas" in his analysis.

It was not until the 1960s that local observers finally began visiting Figueroa Mountain (Lehman 1982) and Pine Mountain on a regular basis. Several annotated checklists of the birds of Santa Barbara and Ventura



Figure 7. Coniferous forest on Pine Mountain showing the trail down to Raspberry Spring at 6750 feet elevation with Jeffrey Pine and scattered White Fir. Note the lack of understory even on the steep north-facing slope.

Photo by Joan Easton Lentz

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counties (Metcalf 1967, 1972, Webster et al. 1980) reflected the increased observer coverage of the region, although their format precluded detailed descriptions of the mountains' avifauna. In the 1970s, quarterly reports in *American Birds* (AB) and seasonal reports of local observers on file at the Santa Barbara Museum of Natural History showed more frequent visits to the mountains of Santa Barbara and Ventura counties; Mount Pinos still received the most attention. Garrett and Dunn (1981) added greatly to our knowledge of the distribution of montane species in southern California, and Lehman (1982) furnished the most detailed account ever of Santa Barbara County's birds.

Although the California Condor had been observed carefully in the San Rafael Mountains since at least the 1930s, no reliable reports on other aspects of the mountains' bird life were published. The Big Pine Mountain region, largely because of its ruggedness and inaccessibility, was not comprehensively censused until our field work on this survey began in the summer of 1981. The idea for this paper originated as a result of that first visit to Big Pine Mountain, with the discovery of nine species not previously known to breed in Santa Barbara County.

SURVEY METHODS AND STUDY AREAS

Historical data were obtained from the published literature; additionally, several observers who had been active in the study areas since the 1970s contributed their records. The most important resource was field notes and

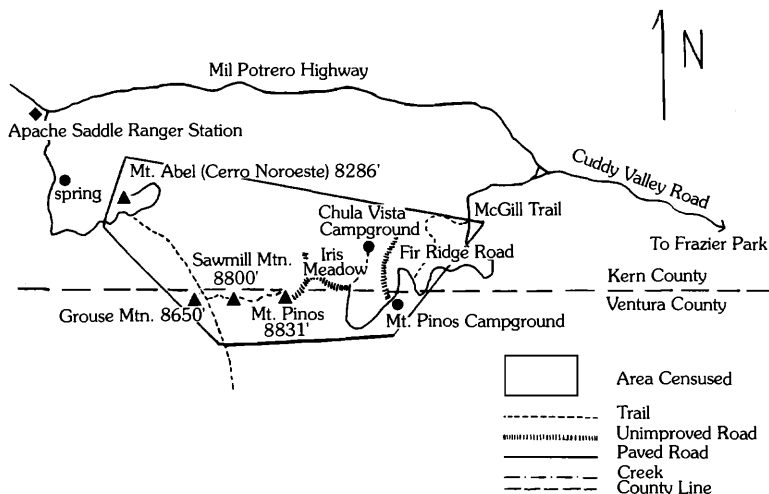


Figure 8. Detail of Mount Pinos and vicinity, Ventura and Kern counties. The total area surveyed, above 6250 feet elevation, was about 7 square miles (18.2 km²), out of a total forested area of about 20 square miles (52 km²).

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sightings from observers who participated with me in the current survey: Louis Bevier, Allyn Bissell, Paul Collins, Jon Dunn, Shawneen Finnegan, Hank and Jan Hamber, George and Joan Hardie, Mark Holmgren, Paul Lehman, Barbara Millett, Jean Okuye, Florence Sanchez, John Schmitt, Brad Schram, Guy Tingos, and T. Dion Warren.

Our field work extended from 1981 to 1993, except at Mount Pinos, which was surveyed only from 1988 to 1992. Most records, both recent and historic, are from the period 15 May to 15 August, and mainly June and July. Occasionally, I have cited records from other times of the year from observers outside this survey.

Censused study areas were subsets of the entire montane habitat on each of the mountaintops. I attempted to keep the study area size roughly proportional to the amount of montane habitat on each mountain, although accessibility was sometimes a factor in coverage.

On Figueroa Mountain, we spent a total of 120 hours observing on 17 May 1982, 6 July 1983, 11, 21 June, and 12 July 1989, 18 June 1990, 29 June, 17 July and 4 August 1991 and 27 May 1992.

On Big Pine Mountain, total observer hours were 1304: 30 June–1 July 1981, 19–22 July 1982, 19–21 July 1983, 30 May 1985, 18–20 June 1986, 2 July 1987, 21–25 June and 23–24 July 1988, 21–23 June 1989,



Figure 9. Coniferous forest on Mount Pinos showing the open, park-like stands of Jeffrey Pine around a meadow at about 8300 feet elevation near Chula Vista Campground.

Photo by Joan Easton Lentz

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21–23 June 1990, 25–27 June 1991, 5–7 June and 25–27 June 1992, and 10–12 June 1993. Big Pine Mountain is difficult to reach, owing to its isolation in the San Rafael Wilderness Area. The nearest trailhead, Santa Barbara Canyon, is a 16-mile hike away. Motorized travel is prohibited in the wilderness area and vehicle access is only by special permission of the U. S. Forest Service, Los Padres National Forest.

San Rafael Mountain (6593 feet, 2009 m) was not in the Big Pine Mountain study area, but pertinent records from this peak are occasionally included in the species accounts. Lying 10 miles (16 km) west of Big Pine Mountain in the San Rafael Range, it supports about 2 square miles of coniferous forest near Mission Pine Spring, which we censused 18–20 June 1982, 10–12 June 1989, 16–18 June 1990, and 21–23 June 1991. Access is via a 12-mile hike from Cachuma Saddle.

We surveyed Pine Mountain on 6 June 1981, 10 August 1983, 29 June 1984, 1 July 1986, 18 July 1988, 9–10 June 1989, 5 August 1990, 7–8 June 1991, and 11–12 June 1992 for a total of 376 observer hours.

On Mount Pinos we spent a total of 520 observer hours on 12 July 1988, 3, 10–11, 16, and 25 June and 6 July 1989, 24 May, 1–3 June, 8, 14 June 1990, 12–13 July 1991, 5 and 19 June and 23 July 1992. (Visits 12–14 May 1991 and 11 September 1992 to search for Blue Grouse were included in the observer hours.)

SPECIES ACCOUNTS

I focused my attention on the species defined as boreal by Miller (1951), although many species widespread also at lower elevations occur on the four mountains. I refer to these boreal species as “montane,” rather than “boreal”; the former is more pertinent to an avifauna which exists in southern California generally above 5000 feet (1500 m) and is associated with oaks and conifers. These montane species are indicated by a ▲. Other species are only briefly annotated, except those of particular interest.

All uncredited sightings are from my personal observations or those of observers who accompanied me in the field; they are on file with me and at the Santa Barbara Museum of Natural History (SBMNH). Sightings of observers connected with this survey but who were not accompanied by me at the time, and sightings of observers not connected with the survey, are credited individually. I defined “common” as over 10 individuals seen or heard per day, “fairly common” as 5–10 individuals seen or heard per day, “uncommon” as 1–5 individuals seen or heard per day, and “rare” as species not seen or heard every day and, when found, usually in small numbers.

TURKEY VULTURE (*Cathartes aura*). Uncommon on Figueroa Mountain, rare on Big Pine Mountain, Pine Mountain, and Mount Pinos.

CALIFORNIA CONDOR (*Gymnogyps californianus*). Extirpated. As recently as the early 1980s it was rare on Big Pine and Pine mountains, uncommon on Mount Pinos/Mount Abel, and a rare visitor to Figueroa Mountain. By 1981, the total population had dwindled to less than 30 and by 1986 only 5 birds remained in the wild. In 1987, the last wild bird was captured, and a remnant flock of California

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Condors now resides in captivity. Reintroduction to the mountains of Ventura County is in progress.

Around Big Pine Mountain, California Condors were formerly quite numerous, e.g., 20 were at San Rafael Mountain 14–15 July 1940 and 11 were at West Big Pine in August 1946 (Koford 1953). From at least 1976 (Snyder and Hamber 1985) through 1985 (J. Hamber pers. comm.), a pair of condors nested regularly near Big Pine Mountain. Until 1983, condors also bred in the Pine Mountain area (J. Hamber pers. comm.). On both Big Pine and Pine mountains, condors nested on cliff ledges or in caves.

In the Mount Pinos/Mount Abel area, California Condors were seen from at least 1904, when Grinnell (1905) reported a single individual flying over the summit, through the 1980s. Although nesting was never documented in the area, the birds were frequently observed foraging there or while passing to and from roosting sites in late summer and early fall.

SHARP-SHINNED HAWK (*Accipiter striatus*). No confirmed records, although the Sharp-shinned Hawk is a scarce summer resident in the San Gabriel, San Bernardino, and San Jacinto ranges (no documented evidence of nesting, Garrett and Dunn 1981).

COOPER'S HAWK (*Accipiter cooperii*). Rare to uncommon on all of the mountains surveyed.

▲**NORTHERN GOSHAWK** (*Accipiter gentilis*). Rare, occurring in the Mount Pinos area only. The goshawk is a rare resident in the San Jacinto Mountains (AB 41:1486) and possibly the San Bernardino Mountains, but with no evidence of nesting (Garrett and Dunn 1981).

Prior to 1989, there was only one nesting record for the Northern Goshawk in southern California: an egg set taken at Mount Pinos on 6 May 1904 (Garrett and Dunn 1981). Other records from Mount Pinos are of individuals 1 August 1953 and 18 June 1976 (Garrett and Dunn 1981). On 10 June 1989 we discovered an active nest with 2 adults and 2 juveniles, which later fledged, in the vicinity of Mount Abel. In the same year, a pair of goshawks was seen near Mount Pinos, where nesting was suspected (AB 43:1367). The Mount Abel pair attempted nesting again in May–June 1990 (R. Moore pers. comm.), but the nest was abandoned. On 19 and 20 July 1991, F. Sanchez saw an adult and 1 (possibly 2) immature(s), but no nest, at Mount Pinos.

RED-TAILED HAWK (*Buteo jamaicensis*). Uncommon on all of the mountains surveyed.

GOLDEN EAGLE (*Aquila chrysaetos*). Rare to uncommon on all four mountains.

AMERICAN KESTREL (*Falco sparverius*). Uncommon on Figueroa Mountain, Big Pine Mountain, and Pine Mountain, rare on Mount Pinos.

▲**BLUE GROUSE** (*Dendragapus obscurus*). This species may still persist as a very rare resident of the Mount Pinos area, but further field work is necessary to determine its status accurately. It is absent from the other mountains surveyed. No reliable records exist south of the study region (Garrett and Dunn 1981).

The Blue Grouse was first recorded from Mount Pinos by Grinnell (1905), who saw a female and juvenile and several dust-wallows and reported that local residents captured the birds frequently. Dickey and van Rossem (1923) described the grouse of the southern Sierra Nevada and Mount Pinos as a subspecies, *D. o. howardi*, citing eight specimens from Mount Pinos and selecting one as the type. Willett (1933) wrote of a set of five eggs taken from the north slope of Mount Pinos 21 May 1928. The last certain records for grouse in this area were in the 1970s, e.g., 1 on Mount

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Abel on 23 September 1976 (J. Hamber pers. comm.) and 5 between Sawmill Mountain and Mount Pinos on 30 September 1979 (M. Hinz, U. S. Forest Service, Mount Pinos District, pers. comm.). Weiss (1979) and Bendell and Zwickel (1984) found no evidence of the species in the Mount Pinos area during surveys conducted in the spring of 1979. A report of 1 or 2 individuals on 10 July 1991 (AB 45:1161) lacked adequate documentation; however, an unconfirmed sighting on 2 August 1992 of a bird flushed near Sawmill Mountain (L. Allen pers. comm.) is intriguing.

On 1 May 1993, R. and M. Chichester were hiking in snow near Sawmill Mountain when the former flushed 2 birds, allegedly Blue Grouse, which disappeared. Then they heard 3 to 5 "booming" calls followed by a few low "clucks." The steep north slopes of Mount Pinos, Mount Abel, and Sawmill Mountain still seem to provide suitable habitat, but we were unable to locate this species there from 1988 to 1992.

For Big Pine Mountain, there is a single record of a sighting by U. S. Forest Service personnel of 2 Blue Grouse chicks on 8 June 1938 (Bartholomew 1940).

CALIFORNIA QUAIL (*Callipepla californica*). Rare to uncommon on all of the mountains surveyed. We usually found California Quail near the lowest elevations of each study area. The California Quail evidently coexists in small numbers with the Mountain Quail, but the former is restricted to the south-facing slopes where chaparral predominates, e.g., we saw 2 at McGill trailhead (6250 feet, 1905 m) on Mount Pinos, 5 June 1992.

▲**MOUNTAIN QUAIL** (*Oreortyx pictus*). Common on Big Pine Mountain, fairly common on Figueroa Mountain, Pine Mountain, and Mount Pinos. It occurs in all of the mountain ranges west of the deserts in southern California (Garrett and Dunn 1981).

Big Pine Mountain, with its brushy patches of Bitter Cherry, Western Chokecherry, and *Ceanothus*, attracts good numbers of Mountain Quail. A high count here is 50 individuals including young 30 June and 1 July 1981 (Lehman 1982). Low rainfall probably affects this species, as numbers declined somewhat from 1984 to 1990 on all the mountains surveyed.

BAND-TAILED PIGEON (*Columba fasciata*). Common on Big Pine Mountain, fairly common on Figueroa Mountain, Pine Mountain, and Mount Pinos. In February and March 1982 near Big Pine Mountain, J. Schmitt observed many concentrated in canyons south of Madulce Peak. He noted birds in all phases of reproduction: nest construction, nests and fresh eggs, young (fledged and nestlings). In February he observed a well-feathered young pigeon that must have hatched from an egg laid in early to mid-January. An enormous acorn crop that year may have stimulated winter breeding.

MOURNING DOVE (*Zenaida macroura*). Uncommon on all the mountains surveyed.

▲**FLAMMULATED OWL** (*Otus flammeolus*). Rare on Mount Pinos and Big Pine Mountain. There are no records for Figueroa Mountain and Pine Mountain, although with further field work the species may be found on the latter. It breeds in the San Gabriel and San Bernardino mountains (AB 39:962; Grinnell and Miller 1944) and possibly in the San Jacinto Mountains (AB 42:1339).

Flammulated Owls were first recorded on Mount Pinos 24–25 July 1935 (Miller 1936). On 1 June 1990, on Fir Ridge Road on the north slope of Mount Pinos, we had a bird respond to taped calls. B. Broadbooks heard 1 calling at the same location on 8 June 1990. K. Garrett found a dying juvenile bird in the town of Frazier Park on 7 August 1992 (specimen in Los Angeles County Museum of Natural History).

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On Big Pine Mountain, Flammulated Owls were unrecorded until J. Schmitt found 1 on 21 April 1989. Later that year, on the nights of 21 and 22 June 1989, we had 3 individuals respond to taped calls at locations $\frac{1}{4}$ to $\frac{1}{2}$ mile apart along Big Pine Road in the dense north-facing coniferous forest. Records since then at the same general location are 1 on 21 June 1990, 2 on 25 June 1991 (seen well), and 2 on 25 and 26 June 1992.

On Pine Mountain, we had no response to several hours of taped calls played on the nights of 7 June 1991 and 11 June 1992.

GREAT HORNED OWL (*Bubo virginianus*). Uncommon on all four mountains.

▲NORTHERN PYGMY-OWL (*Glaucidium gnoma*). Uncommon on Figueroa and Big Pine mountains, rare to uncommon on Pine Mountain, and rare on Mount Pinos. It breeds in the San Gabriel, San Bernardino, and San Jacinto mountains with a general decrease in abundance from north to south (Garrett and Dunn 1981).

On Big Pine Mountain and West Big Pine, M. Holmgren counted up to 9 individuals, including 3 fledged young, from 21 to 25 June 1988. In the Figueroa Mountain area, our high count was 3, including a pair, on 14 April 1989.

On Pine Mountain, there is a record of 1 in the "summer of 1980" (R. Webster, unpubl. report in SBMNH), and we saw 1 on 10 June 1989 and 8 June 1991 at the same location on Reyes Peak and 1 near Haddock Peak on 11 June 1992. The only recent record from Mount Pinos is of a family group at Mount Pinos Campground 1–2 August 1980 (K. Garrett pers. comm.).

▲SPOTTED OWL (*Strix occidentalis*). Uncommon on Big Pine Mountain, rare to uncommon on Figueroa Mountain, Pine Mountain, and Mount Pinos. The species breeds in the San Gabriel, San Bernardino, and San Jacinto mountains (Garrett and Dunn 1981).

Spotted Owls were observed regularly on Big Pine Mountain, being found more commonly at lower elevations in shaded, narrow canyons where Canyon Live Oaks provide shelter for roosting and nesting. U. S. Forest Service censuses since 1988 indicate this owl is more widespread than previously thought (Nancy Sandburg, U.S. Forest Service, Santa Barbara District, pers. comm.). Near Figueroa Mountain, Spotted Owls frequent canyons on the north slopes, where a pair fledged 2 young in July 1985 (P. Lehman, unpubl. report on file at SBMNH) and 2 were heard calling in June 1991 (*vide* G. Tingos).

On Pine Mountain, there is one record from the elevations surveyed, of an individual we heard calling downslope from Reyes Peak on 11 June 1992. However, Spotted Owls can be found in nearby north-facing canyons at lower elevations, e.g., R. Moore heard up to 4 there in summer 1989. On Mount Pinos, Grinnell (1905) recorded a Spotted Owl at 5500 feet and Willett (1933) cited 1 at 6300 feet, but the absence of oaks and riparian woodlands contributes to the scarcity of the species there.

LONG-EARED OWL (*Asio otus*). Rare in the Mount Pinos region; no records for the other mountains surveyed. Grinnell (1905) recorded the species on Mount Pinos at 5000 feet; a pair with 3 or 4 young were at 7500 feet on 1 August 1981 (AB 35:979).

▲NORTHERN SAW-WHET OWL (*Aegolius acadicus*). Rare to uncommon on all of the mountains surveyed. It breeds in the San Gabriel (AB 38:1060), San Bernardino, and San Jacinto mountains, where it is uncommon and local (Garrett and Dunn 1981).

The Northern Saw-whet Owl was first recorded on Mount Pinos by Miller and Benson (1930). Hall (1940) located a nest there with 4 eggs and 1 chick, and in early July 1972 a juvenile was on Mount Pinos (AB 26:907). During the night of 1 June

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1990, we had 2 individuals of this species respond to taped calls, 1 at Mount Pinos Campground and 1 at Fir Ridge Road. We had another response to taped calls on 12 July 1991 at the same location on Fir Ridge Road as the previous year. From 22 to 26 July 1991, L. Sansone saw 1 roosting near Mount Pinos Campground.

On Big Pine Mountain, Northern Saw-whet Owls were first recorded from 29 June through 1 July 1981 (Lehman 1982). That year 4 were heard calling persistently from the coniferous forest along the north slope. On subsequent visits to Big Pine Mountain, we heard 1 on 22 June 1989, and M. Holmgren had 2 respond to taped calls on 6 June 1992. On San Rafael Mountain, G. and J. Hardie observed 1 on 11 June 1989.

On Figueroa Mountain, the Northern Saw-whet Owl is found irregularly on the north slopes in the pine-fir forest above 4000 feet (Lehman 1982). In the Pine Mountain area, we observed an individual when it responded to taped calls on 11 June 1992 on the north slope of Reyes Peak, a first record for the species on this mountain.

COMMON POORWILL (*Phalaenoptilus nuttalli*). Although this species inhabits the drier chaparral on the lower slopes of all the mountains, there are no records of it at the elevations surveyed except the following: Grinnell (1905) observed 2 on Mount Pinos, including 1 at the summit, in June and July 1904, and we observed single birds on Big Pine Mountain in the Alamar Saddle area on 20 July 1982 and 12 July 1991.

WHITE-THROATED SWIFT (*Aeronautes saxatalis*). Uncommon to fairly common on all the mountains surveyed.

BLACK-CHINNED HUMMINGBIRD (*Archilochus alexandri*). One at the summit of Big Pine Mountain on 22 July 1982 is likely to have been a postbreeding upslope wanderer.

ANNA'S HUMMINGBIRD (*Calypte anna*). Common on Figueroa, Pine, and Big Pine mountains, and fairly common in the Mount Pinos region.

COSTA'S HUMMINGBIRD (*Calypte costae*). Probably a rare to uncommon but regular visitor, particularly in high-elevation chaparral, on all the mountains surveyed, but there are records only for Pine Mountain, where we saw 1 on 9 June 1989, and Big Pine Mountain, where we saw 1 on 1 July 1981, 1 on 2 July 1987, 6 on 22 June 1989, and 1 on 22 June 1991 and M. Holmgren saw 1 on 6 June 1992. In addition, we saw 2 on San Rafael Mountain 19 June 1982.

▲**CALLIOPE HUMMINGBIRD** (*Stellula calliope*). Uncommon in the Mount Pinos area, rare visitor on Big Pine Mountain, unrecorded on Figueroa Mountain, and status unclear on Pine Mountain. The species nests on the north side of the San Gabriel Mountains (rare) and in the San Bernardino and San Jacinto (rare) mountains (Garrett and Dunn 1981).

Grinnell (1905) described this hummingbird as fairly common on Mount Pinos, but I did not find it so. Our high count in the Mount Pinos/Mount Abel area was 5 from 11 to 13 July 1991. Calliope Hummingbirds frequent currants (especially *Ribes cereum*) near Iris Meadow, at Sheep Camp meadow, and along the McGill trail.

In the Pine Mountain area, Garrett and Dunn (1981:228) reported that Calliope Hummingbirds "nest on Reyes Peak," but I have not been successful in locating any records. There is one specimen at the University of California at Santa Barbara (UCSB), an immature male 13 August 1989, from the headwaters of Piedra Blanca Creek, near Pine Mountain but east of the study area. Although small patches of currants are found along a 4-mile segment of Pine Mountain ridge from Reyes Peak to Haddock Peak, we observed no Calliope Hummingbirds there 8 June 1991 and 12 June 1992.

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For Big Pine Mountain, there are three records: we saw an immature at Chokecherry Spring on 19 July 1982, and on 10 June 1993 we observed a male displaying along the Big Pine Road. In addition, M. Holmgren collected 2 on 30 August 1989 (specimens in UCSB), which were probably migrants.

RUFIOUS HUMMINGBIRD (*Selasphorus rufus*). Common fall (July–August) transient on all the peaks except Figueroa Mountain, where it is only fairly common (Lehman 1982).

ALLEN'S HUMMINGBIRD (*Selasphorus sasin*). Uncommon fall (July–August) transient on all the peaks surveyed. Because of the difficulty of distinguishing immature Rufous and Allen's hummingbirds in the field, the status of these two species remains somewhat unclear.

ACORN WOODPECKER (*Melanerpes formicivorus*). Common on Figueroa Mountain, uncommon on Big Pine Mountain, and rare to uncommon on Pine Mountain and Mount Pinos.

▲**RED-BREASTED SAPSUCKER** (*Sphyrapicus ruber*). Although this species is uncommon to fairly common on Big Pine and Pine mountains, it is rare to uncommon on Mount Pinos. There are no summer records for Figueroa Mountain. It breeds in the San Gabriel, San Bernardino, and San Jacinto mountains (Garrett and Dunn 1981).

The Red-breasted Sapsucker was one of the species found nesting on Big Pine Mountain from 29 June to 1 July 1981 (Lehman 1982), a first summer and breeding record for Santa Barbara County, with 12 individuals tallied including an adult feeding a juvenile. Numbers there have declined somewhat since. We saw 2 on San Rafael Mountain on 19 June 1982, indicating the westernmost summer occurrence of this species in southern California.

On Mount Pinos, the bird was first recorded by Miller and Benson (1930). It is surprisingly rare in the Mount Pinos/Mount Abel area, and, although known to breed there (Hall 1940; Garrett and Dunn 1981), since the late 1970s there have been records of only a handful of individuals: single birds on 1 July 1978 (R. Webster pers. comm.) and 8 June 1991 (R. Moore pers. comm.) at Iris Meadow on Mount Pinos; 1 on 25 June 1989 on Mount Abel (B. Schram pers. comm.), and 1 on 15 May 1992 along McGill trail on Mount Pinos (F. Sanchez pers. comm.). Possibly the species is more numerous at lower elevations where Black Oaks predominate (J. Dunn pers. comm.). Red-breasted Sapsuckers may be as scarce as Williamson's Sapsuckers in the Mt. Pinos region.

▲**WILLIAMSON'S SAPSUCKER** (*Sphyrapicus thyroideus*). Rare on Mount Pinos; one record for Pine Mountain; no summer records exist for Big Pine or Figueroa mountains. Williamson's Sapsuckers breed in the San Gabriel (scarce), San Bernardino, and San Jacinto mountains (Garrett and Dunn 1981).

On Mount Pinos, neither Grinnell (1905) nor Miller and Benson (1930) recorded this species. Later, Miller (1951) listed the Williamson's Sapsucker as one of the boreal species occurring on Mount Pinos. Garrett and Dunn (1981) gave its status there as rare with nesting evidence needed. Records from 1988 through 1992 are of 1 on Mount Pinos on 8 July 1988 (A. Bissell pers. comm.), 1 on Mount Abel 3 June 1990 and 22 June 1991 (both L. Sansone pers. comm.), 1 on Mount Abel on 16 June 1991 (H. Brodtkin pers. comm.), and "a pair" at Iris Meadow on Mount Pinos 8 June 1991 (R. Moore pers. comm.).

On Pine Mountain, an adult Williamson's Sapsucker accompanied by 2 immatures in the vicinity of Reyes Peak on 30 July 1980 (AB 34:930) provided the only known occurrence of breeding there. I observed no Williamson's Sapsuckers there from 1981 through 1992.

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NUTTALL'S WOODPECKER (*Picoides nuttalli*). Fairly common on Figueroa Mountain, uncommon on Big Pine Mountain; no records for Mount Pinos and Pine Mountain at the elevations surveyed.

HAIRY WOODPECKER (*Picoides villosus*). Uncommon on all of the mountains surveyed.

▲WHITE-HEADED WOODPECKER (*Picoides albolarvatus*). Fairly common to common on Mount Pinos, Pine Mountain, and Big Pine Mountain; one summer record for Figueroa Mountain. The northern, nominate subspecies occurs south to the southern Sierra Nevada and the Piute Mountains (Grinnell and Miller 1944). Birds of the southern subspecies *gravirostris* are resident in the San Gabriel, San Bernardino, and San Jacinto mountains.

Grinnell (1905) first recorded this species on Mount Pinos. He suggested that the birds there are intergrades between the small-billed northern *albolarvatus* and the large-billed southern *gravirostris*. Our high count in the Mount Pinos/Mount Abel area was 28 from 11 to 13 July 1991.

Dawson (1923:1003) reported that *P. a. albolarvatus* was resident "on Mount Pinos and west through the San Rafaels." Not until the exploration of the Big Pine Mountain/San Rafael Mountain area in the early 1980s, however, was a sizeable population of these birds found. Our high counts were 19 on Big Pine Mountain from 25 to 27 June 1992 and 13 on San Rafael Mountain from 18 to 20 June 1982. The latter is the westernmost known location for summering of the species in southern California.

P. Lehman found a single individual on Figueroa Mountain on 17 June 1981.

NORTHERN FLICKER (*Colaptes auratus*). Fairly common on all the mountains surveyed.

▲OLIVE-SIDED FLYCATCHER (*Contopus borealis*). Fairly common to common on Big Pine and Pine mountains; only fairly common on Mount Pinos and Figueroa Mountain. It breeds in all the major ranges west of the deserts in southern California (Garrett and Dunn 1981).

The dry, open Jeffrey pine forest found along the Pine Mountain ridge and in the Big Pine Mountain area, (e.g., West Big Pine and Madulce Peak) is well suited for Olive-sided Flycatchers. High counts are 16 on Pine Mountain, 9 and 10 June 1989, and 30 on Big Pine Mountain, 30 June and 1 July 1981 (Lehman 1982), although numbers on the latter have since declined.

Grinnell (1905) first recorded this species as relatively numerous on Mount Pinos. Our highest count on Mount Pinos was 7 on 5 June 1992.

WESTERN WOOD-PEWEE (*Contopus sordidulus*). Common on all the mountains surveyed.

▲DUSKY FLYCATCHER (*Empidonax oberholseri*). Fairly common on Mount Pinos and Big Pine Mountain, uncommon to fairly common on Pine Mountain, absent from Figueroa Mountain. The species breeds throughout the major mountain ranges of southern California (Garrett and Dunn 1981).

On Mount Pinos, Dusky Flycatchers were first recorded by Miller and Benson (1930). We found them associated there with montane chaparral (*Ribes* spp. and *Ceanothus* spp.) adjacent to conifers, particularly near the summit and along the McGill trail.

On Big Pine Mountain, Dusky Flycatchers were discovered 30 June and 1 July 1981, a first Santa Barbara County summer breeding record (Lehman 1982, P. Collins, specimen in breeding condition in SBMNH). Here, this species frequents patches of *Ceanothus*, Bitter Cherry, or Western Chokecherry, usually near pines or firs. M. Holmgren had an unusually high count of 21 in the Big Pine Mountain/West

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Big Pine area on 6 and 7 June 1992. Dusky Flycatchers may also breed farther west on San Rafael Mountain, where we recorded 15 from 18 to 20 June 1982.

On Pine Mountain, Dusky Flycatchers are not as common, perhaps because the montane chaparral there is less extensive. Our high count there was 6 on 7 and 8 June 1991.

PACIFIC-SLOPE FLYCATCHER (*Empidonax difficilis*). Uncommon to fairly common on Figueroa Mountain, Big Pine Mountain, and Pine Mountain. There is only one summer record for Mount Pinos, of an individual we saw at the McGill trailhead on 5 June 1992.

BLACK PHOEBE (*Sayornis nigricans*). Two records, probably of postbreeding upslope wanderers: 1 on Mount Pinos 14 June 1980, 1 on Big Pine Mountain 1 July 1981 (Lehman 1982).

ASH-THROATED FLYCATCHER (*Myiarchus cinerascens*). Fairly common on Figueroa and Big Pine mountains, uncommon on Pine Mountain, and rare on Mount Pinos at the elevations surveyed.

HORNED LARK (*Eremophila alpestris*). Two birds we saw flying over San Rafael Mountain on 19 June 1982 represent our only summer record of this species from the mountains surveyed. However, a specimen at the University of California at Los Angeles (UCLA) was collected by A. J. van Rossem on Mount Pinos at "9000 feet" on 3 July 1921.

PURPLE MARTIN (*Progne subis*). Rare and irregular on Big Pine Mountain; no records from the other mountains surveyed, although the species formerly nested near Mount Pinos at lower elevations (Garrett and Dunn 1981). On Big Pine Mountain, a pair nested on the summit in 1979 (Lehman 1982), and there have been scattered records since. Our high count was 2 pairs in the West Big Pine area on 1 July 1981 (Lehman 1982). Farther west, G. and J. Hardie observed 6 on San Rafael Mountain on 10 June 1989. Also, we found 14 Purple Martins nesting in holes in Ponderosa Pines 3 miles northeast of San Rafael Mountain on 19 June 1982.

VIOLET-GREEN SWALLOW (*Tachycineta thalassina*). Common on all the mountains surveyed except Figueroa Mountain, where the species is fairly common.

CLIFF SWALLOW (*Hirundo pyrrhonota*). Fairly common on all the mountains surveyed except Mount Pinos, for which I have no records at the elevations surveyed.

▲ **STELLER'S JAY** (*Cyanocitta stelleri*). Common on all of the mountains surveyed. Steller's Jay occurs in southern California throughout montane areas with conifers (Garrett and Dunn 1981).

SCRUB JAY (*Aphelocoma coerulescens*). Uncommon on all of the mountains surveyed.

▲ **CLARK'S NUTCRACKER** (*Nucifraga columbiana*). Fairly common to common in the Mount Pinos area; only one summer record for Pine and Big Pine mountains; absent from Figueroa mountain. Clark's Nutcracker breeds in the higher portions of the San Gabriel, San Bernardino, and San Jacinto mountains (Garrett and Dunn 1981).

On Mount Pinos, Grinnell (1905) found Clark's Nutcrackers abundant, and Willett (1933:118) wrote, "As full-grown young are plentiful in late May and early June, nesting must be early, probably in the latter part of March." Our high count for the Mount Pinos/Mount Abel area was 30 on 2 June 1990.

The only records from Big Pine and Pine mountains are of 2 on the former on 21 August 1979 (Lehman 1982), and 2 in the Thorn Point area (elevation 6900 feet, 2092 m, 5 miles east of Haddock Peak) of the latter on 30 July 1980.

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COMMON RAVEN (*Corvus corax*). Uncommon on all the mountains surveyed.

▲MOUNTAIN CHICKADEE (*Parus gambeli*). Common on all but Figueroa Mountain, where it is fairly common. It occurs in all of the forested mountains of southern California (Garrett and Dunn 1981).

PLAIN TITMOUSE (*Parus inornatus*). Fairly common on Big Pine and Figueroa mountains; no records for Pine Mountain or Mount Pinos at the elevations surveyed.

BUSHTIT (*Psaltriparus minimus*). Common on Figueroa Mountain, fairly common on Big Pine Mountain, uncommon on Pine Mountain, and rare in the Mount Pinos region.

▲RED-BREASTED NUTHATCH (*Sitta canadensis*). Fairly common on Big Pine Mountain, but uncommon and local on Mount Pinos and Pine Mountain, and rare and irregular on Figueroa Mountain. The species breeds in the San Gabriel, San Bernardino, and San Jacinto mountains (Garrett and Dunn 1981).

Prior to our survey of Big Pine Mountain, Red-breasted Nuthatches were not known to breed in Santa Barbara County (Lehman 1982). They are fairly numerous in the pine-fir forest along the Big Pine Road and in the mesic Incense Cedar forest along the trail to Lower Bear Campground, where we saw a family group on 26 June 1992. We had a high count of 24 in the Big Pine Mountain area from 18 to 20 June 1986, but totals seem to fluctuate from year to year.

Not until July 1929 was this species observed on Mount Pinos (Miller and Benson 1930), where it continues to be rather difficult to find. A high count there was 6 on 27 July 1983 (P. Lehman, unpubl. report on file at SBMNH). On Pine Mountain, Red-breasted Nuthatches are found sparingly along the Raspberry Spring trail and on the north slope of Reyes Peak, possibly as scarce breeders. Our high count was 4 on 9 and 10 June 1989.

On Figueroa Mountain, the species possibly breeds in some years, [e.g., up to 6 there 23 April–27 June 1981 (Lehman 1982), 3 there 14 April–12 July 1989]. We saw up to 8 at the head of Fir Canyon between 29 June and 4 August 1991, and 2 were there 27 May 1992.

WHITE-BREASTED NUTHATCH (*Sitta carolinensis*). Fairly common on Big Pine and Figueroa mountains, uncommon to fairly common on Mount Pinos and Pine Mountain.

▲PYGMY NUTHATCH (*Sitta pygmaea*). Common on all of the mountains studied. It is also common in all of the major mountain ranges of southern California (Garrett and Dunn 1981).

▲BROWN CREEPER (*Certhia americana*). Common on Big Pine Mountain, fairly common on Figueroa and Pine mountains and Mount Pinos. It breeds in all the major forested ranges in southern California (Garrett and Dunn 1981).

Brown Creepers are common on Big Pine Mountain in the mesic sections of the pine-fir forest north of Big Pine Road and in the predominantly Incense Cedar forest near Lower Bear Campground. We had a high count of 39 in the area from 10 to 12 June 1993. *C. a. zelotes* is the subspecies found on Mount Pinos (Grinnell and Miller 1944) and presumably occurs on the other peaks surveyed, e.g., P. Unitt (pers. comm.) collected *zelotes* on Pine Mountain on 12 October 1987 (specimen in San Diego Natural History Museum).

ROCK WREN (*Salpinctes obsoletus*). Uncommon and local on all of the mountains surveyed. On 25 June 1992, we counted 10 near West Big Pine in the Big Pine Mountain area, an unusually high number.

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CANYON WREN (*Catherpes mexicanus*). Uncommon on Figueroa and Big Pine mountains, rare at the elevations surveyed on Pine Mountain and Mount Pinos.

BEWICK'S WREN (*Thryomanes bewickii*). Uncommon to fairly common on Figueroa, Big Pine, and Pine mountains, rare to uncommon on Mount Pinos.

HOUSE WREN (*Troglodytes aedon*). Common on Big Pine Mountain and in the Mount Pinos area; fairly common on Figueroa and Pine mountains.

AMERICAN DIPPER (*Cinclus mexicanus*). There are no records of this species at the elevations surveyed owing to the lack of permanent streams. However, American Dippers are rare and local permanent residents at lower elevations nearby, e.g., we saw 1 at Upper Sisquoc Falls near Big Pine Mountain at 5000 feet (1500 m) on 19 July 1982.

▲GOLDEN-CROWNED KINGLET (*Regulus satrapa*). Fairly common on Big Pine Mountain and Mount Pinos, uncommon and local on Pine Mountain, and absent from Figueroa Mountain. It is an uncommon and very local breeder in the higher portions of the San Bernardino and San Jacinto mountains (Garrett and Dunn 1981) and a rare summer visitor and possible breeder in the San Gabriel Mountains (AB 41:1488, K. Garrett pers. comm.).

Golden-crowned Kinglets were first recorded on Mount Pinos in the fir trees on the north slope (Miller and Benson 1930). Here, along Fir Ridge Road and Grouse Mountain Trail, is still the most reliable spot for the species in the Mount Pinos/Mount Abel area.

On Big Pine Mountain, we tallied a high count of 30, including fledglings, for a first breeding record for Santa Barbara County, on 30 June and 1 July 1981 (Lehman 1982). Subsequently, the population there appears to have decreased: 8 from 21 to 23 June 1989 and 12 from 21 to 23 June 1990 are recent totals.

On Pine Mountain, Golden-crowned Kinglets are scarce and generally can be found only in the firs along the north slopes, (e.g., Raspberry Spring Trail and the north slope of Reyes Peak), where we observed a high count of 8 on 7 and 8 June 1991.

▲RUBY-CROWNED KINGLET (*Regulus calendula*). This species no longer breeds in the Mount Pinos area, where it once was rare (Garrett and Dunn 1981). There are no summer records for the other mountains surveyed. The species formerly summered in small numbers in the San Gabriel (J. Dunn pers. comm.), San Bernardino, and San Jacinto mountains, but there are no recent records from the San Gabriel Mountains (K. Garrett pers. comm.) and it is possibly extirpated in the San Jacinto range (Garrett and Dunn 1981).

Miller and Benson (1930:102) first observed the Ruby-crowned Kinglet on Mount Pinos on 9 June 1919 "in fir timber on the north slope of the mountain," hearing and seeing it on succeeding days up to 13 June. "The birds were in full song. They were less numerous than the Golden-crowned Kinglets." The most recent record for the Mount Pinos region is of a singing male on 18 June 1978 on Fir Ridge Road (R. Webster pers. comm.). I found none of this species on Mount Pinos or Mount Abel from 1988 through 1992.

Gaines (1988:238) reported the Ruby-crowned Kinglet to be "one of the scarcest of our summer resident songbirds" in the Sierra Nevada.

BLUE-GRAY GNATCATCHER (*Poliioptila caerulea*). Fairly common to common on Big Pine Mountain, uncommon on Pine and Figueroa mountains. There are no records for Mount Pinos at the elevations surveyed.

WESTERN BLUEBIRD (*Sialia mexicana*). Fairly common to common on all of the mountains surveyed.

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▲**MOUNTAIN BLUEBIRD** (*Sialia currucoides*). Uncommon and local only in the Mount Pinos/Mount Abel area at lower elevations. Elsewhere in southern California it breeds in the eastern San Bernardino Mountains (Garrett and Dunn 1981).

The status of Mountain Bluebird on Mount Pinos is somewhat unclear. Garrett and Dunn (1981:284) stated, "The Mountain Bluebird breeds on Mount Pinos and in neighboring high sagebrush valleys." Two immatures were at the summit of nearby Frazier Mountain on 7 July 1979 (R. Webster pers. comm.). However, we found no Mountain Bluebirds above 6250 feet (1890 m) in the Mount Abel/Mount Pinos area from June through late July from 1988 through 1992. Only Western Bluebirds were in pairs and feeding young in the open terrain at the Mount Pinos summit. Perhaps Mountain Bluebirds breed at lower elevations (as in Lockwood Valley, where F. Sanchez observed a male on 1 June 1990), then many wander upslope.

▲**TOWNSEND'S SOLITAIRE** (*Myadestes townsendii*). Uncommon on Mount Pinos, rare to uncommon on Pine Mountain, and unrecorded on Big Pine and Figueroa mountains. It breeds in all the major mountain ranges of southern California (Garrett and Dunn 1981).

Benson and Miller (1930) first recorded Townsend's Solitaires on Mount Pinos. We observed them in the summit area of Mount Pinos along rocky ridges above the steep north slope, as well as on Fir Ridge Road and along the McGill trail.

On Pine Mountain, a small breeding population of this species inhabits the steep canyons of the north slope. On 5 August 1990, M. Holmgren recorded a high count there of 6, including adults with juveniles.

▲**HERMIT THRUSH** (*Catharus guttatus*). Rare to uncommon in the Mount Pinos region; two summer records from Big Pine Mountain. The species is absent in summer from Figueroa and Pine mountains. It is an uncommon and local breeder in the San Gabriel and San Bernardino mountains and possibly the San Jacinto Mountains, where verification is needed (Garrett and Dunn 1981).

The Hermit Thrush is another of the species first recorded on Mount Pinos by Miller and Benson (1930). It is rather uncommon on the shady north slope of Mount Pinos and on nearby Grouse Mountain, where our high count was 5 singing males along the Grouse Mountain trail on 3 June 1990. Two singing males were north of Iris Meadow on Mount Pinos on 14 June 1990.

On Big Pine Mountain, we heard an individual singing from the north slope on 20 June 1986 and again on 11 June 1993.

AMERICAN ROBIN (*Turdus migratorius*). Uncommon to fairly common on Big Pine Mountain and Mount Pinos, but uncommon on Figueroa and Pine mountains.

VARIED THRUSH (*Ixoreus naevius*). On Mount Pinos, K. Garrett photographed a singing male near McGill Campground on 20 July 1979 (AB 33:898). On Big Pine Mountain, we observed a male near Lower Bear Campground on 11 June 1993, a first summer record for Santa Barbara County.

WRENTIT (*Chamaea fasciata*). Fairly common on all of the mountains studied, except Mount Pinos, where there are no records for the elevations surveyed.

CALIFORNIA THRASHER (*Toxostoma redivivum*). Rare to uncommon on all of the mountains studied except Mount Pinos, where there are no records at the elevations surveyed.

PHAINOPEPLA (*Phainopepla nitens*). There are two records for Big Pine Mountain: 2 on 20 June 1986 and 2 on 22 June 1989, both at Alamar Saddle, where chaparral abuts the Coulter Pine forest.

▲**SOLITARY VIREO** (*Vireo solitarius*). Uncommon on Figueroa and Big Pine mountains. The species' status on Mount Pinos and Pine Mountain is unclear; it

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probably breeds at lower elevations nearby. The race *cassinii* of the Solitary Vireo occurs on the coastal slopes of the major mountains of southern California. Here, "its present breeding range is imperfectly known, and the subspecies appears to be absent from large tracts of suitable habitat" (Garrett and Dunn 1981:301).

Solitary Vireos are encountered on Figueroa and Big Pine mountains in shaded areas where oaks and conifers form a canopy, often near riparian vegetation. On Figueroa Mountain our high count was 4 on 27 May 1992 at the head of Fir Canyon, and on Big Pine Mountain 5 each on 19 July 1982 and 26 June 1992, with most occurring along the trail to Lower Bear Campground (P. Collins, specimen in breeding condition in SBMNH).

Grinnell (1905) wrote of a single pair of Solitary Vireos near his camp on Mount Pinos at 6500 feet (1981 m). The only recent record is of 1 F. Sanchez saw near Iris Meadow on 23 July 1992.

On Pine Mountain, there are records of single birds on 5 August 1990 (M. Holmgren pers. comm.) and 17 June 1992 (L. Ballard pers. comm.). At lower elevations along nearby Beartrap and Piedra Blanca creeks, riparian vegetation provides suitable nesting habitat.

HUTTON'S VIREO (*Vireo huttoni*). Uncommon on Figueroa Mountain, rare on Big Pine Mountain. No records exist for the elevations surveyed on Pine Mountain and Mount Pinos.

WARBLING VIREO (*Vireo gilvus*). Uncommon on Figueroa and Big Pine mountains; no records for the elevations surveyed on Pine Mountain and Mount Pinos.

ORANGE-CROWNED WARBLER (*Vermivora celata*). Common on Big Pine Mountain and in the Mount Pinos region, but only fairly common on Figueroa and Pine mountains.

▲**NASHVILLE WARBLER** (*Vermivora ruficapilla*). Rare to uncommon and somewhat irregular on Big Pine Mountain; rare summer visitor, possibly breeding in some years, on Mount Pinos. There are two summer records for the Pine Mountain vicinity and none for Figueroa Mountain. The Nashville Warbler breeds in small numbers in the San Gabriel (AB 37:1028) and San Bernardino mountains; in the San Jacinto Mountains nesting is suspected (Garrett and Dunn 1981; AB 41:1487).

Since at least 1979 (AB 33:898), Nashville Warblers have been reported irregularly on Mount Pinos with no evidence of nesting. In 1990, we observed 2 singing males in two separate areas along the McGill trail 24 May and again on 2 June. F. Sanchez found a male along a different part of the trail on 8 June 1990. On 18 July 1990, we found no sign of the birds, and none were observed in 1991 and 1992. The habitat here, a mixture of Black Oaks and Jeffrey Pines with open patches of *Ceanothus*, appears suitable for nesting.

On Big Pine Mountain, we located a family group of 2 adult and 2 juvenile Nashville Warblers on 21 July 1982, a first summering and breeding record for this species in Santa Barbara County. Since then, Nashville Warblers have been found as follows: a pair and a singing male on 19 and 20 June 1983, a singing male 30 May 1985, a singing male 22 and 23 June 1990, 4 adults (at least 1 pair) from 25 to 27 June 1991, 5 (at least 1 pair) from 25 to 27 June 1992, and a total of 9 singing males from 10 to 12 June 1993. They frequent the patches of montane chaparral, particularly near Canyon Live Oaks, along Big Pine Road.

In the Pine Mountain vicinity, there are two records: a singing male 24 May 1980 at Thorn Meadows area (5000 feet, 1500 m), approximately 5 miles east of Haddock Peak, and 1 on 10 August 1983 at Raspberry Spring, the latter probably a fall migrant.

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NORTHERN PARULA (*Parula americana*). An out-of-range vagrant. G. and J. Hardie observed a singing male on San Rafael Mountain on 17 June 1990.

YELLOW WARBLER (*Dendroica petechia*). There are two records: 1 on Big Pine Mountain on 30 May 1985 and 1 on Pine Mountain on 10 August 1983, both probably representing migrants.

▲YELLOW-RUMPED WARBLER (*Dendroica coronata*). The subspecies *D. c. auduboni* is fairly common to common on Pine Mountain and Mount Pinos, and uncommon to fairly common on Big Pine Mountain, but there is only one record for Figueroa Mountain. It breeds in montane forests through the Transverse Ranges to the San Jacinto Mountains (Garrett and Dunn 1981).

Grinnell (1905:390) noted that Yellow-rumped Warblers were "common in the Jeffrey pine belt above 6500 feet" on Mount Pinos. On Pine Mountain, our high count was 15 on 9 and 10 June 1989.

On Big Pine Mountain, the first summer record of this species in Santa Barbara County was established 29 June–1 July 1981 (Lehman 1982); subsequently, we observed a female feeding a fledgling on 20 June 1983. An unusually high count for the area was 17 from 25 to 27 June 1991. Yellow-rumped Warblers also breed further west on San Rafael Mountain. On all the mountains surveyed, this species occurs in the more open, dry stretches of Jeffrey Pine forest.

On Figueroa Mountain, Lehman (1982) observed on 16 May 1982 a singing male, either a late spring transient or possibly on territory.

BLACK-THROATED GRAY WARBLER (*Dendroica nigrescens*). Uncommon to fairly common on Figueroa and Big Pine mountains; status is poorly understood on Pine Mountain and Mount Pinos. Two records on Pine Mountain: 1 each on 5 August 1990 (M. Holmgren pers. comm.) and 11 July 1992 (F. Sanchez pers. comm.). We did not observe any in the Mount Pinos region at the elevations surveyed, but Grinnell (1905:390) noted "this species from 5500 feet to the summit," finding it "best represented, numerically, in the golden oaks (i. e., Canyon Live Oaks) of the canyons between 6000 and 7000 feet altitude."

TOWNSEND'S WARBLER (*Dendroica townsendi*). Two records: 1 near Sawmill Mountain on 3 June 1990 and 2 on Pine Mountain on 10 August 1983, undoubtedly late spring and early fall migrants, respectively.

▲HERMIT WARBLER (*Dendroica occidentalis*). Absent as a summer resident from the mountains surveyed. It has been recorded in small numbers annually in recent years in the San Gabriel (where it probably nests, K. Garrett pers. comm.) and San Bernardino mountains (where nesting is known, Garrett and Dunn 1981). Two records from Pine Mountain: 4 on 10 August 1983, and 1 on 5 August 1990 (M. Holmgren pers. comm.). One was on Mount Pinos 22 July 1978 (Webster et al. 1980). All were probably fall migrants.

▲MACGILLIVRAY'S WARBLER (*Oporornis tolmiei*). Rare and irregular summer visitor (possibly breeding); no records on Figueroa Mountain. Uncommon summer resident in the San Gabriel and San Bernardino mountains with nesting documented in both ranges (K. Garrett pers. comm.); recently observed in the San Jacinto Mountains (AB 41:1489).

The records for the survey area: on Big Pine Mountain, 2 singing males 30 June and 1 July 1981 (Lehman 1982), a first Santa Barbara County summer record, and 2 singing males there again on 6 June 1992 (M. Holmgren pers. comm.), which we could not relocate from 25 to 27 June of that year; in upper Quatal Canyon (west of Mount Abel below coniferous forest), a singing male with a female on 16 June 1980; on Mount Pinos at Iris Meadow, a female on 23 July 1992 (F. Sanchez pers. comm.);

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at Thorn Meadows (5 miles east of Haddock Peak at 5000 feet, 1500 m) near Pine Mountain, a singing male with a female on 22 May 1980.

▲**WILSON'S WARBLER** (*Wilsonia pusilla*). Rare and irregular on Mount Pinos; two records for Pine Mountain; absent from the other mountains surveyed. An uncommon nester mostly in willow thickets around montane meadows in the San Gabriel, San Bernardino and, at least formerly, San Jacinto mountains (Garrett and Dunn 1981).

In the Mount Pinos area, Wilson's Warblers breed irregularly in suitable habitat such as Iris Meadow. The most recent records are from the 1970s: a singing male 30 June 1970 on Fir Ridge Road (J. Dunn pers. comm.); 2 males, both singing, on 18 and 30 June 1978 at Iris Meadow; 2 there 1 July 1978, and an adult and an immature there 22 July 1978 (all R. Webster pers. comm.). One on Fir Ridge Road on 30 July 1991 (R. Moore pers. comm.) could well have been a fall migrant.

The two records for Pine Mountain, of 1 each on 19 June 1984 and 5 August 1990 (M. Holmgren pers. comm.), probably represent a late spring and an early fall migrant, respectively.

▲**WESTERN Tanager** (*Piranga ludoviciana*). Common on Big Pine Mountain, fairly common on Mount Pinos, uncommon on Figueroa and Pine mountains. The species breeds in all the major mountain ranges west of the deserts (Garrett and Dunn 1981).

On Big Pine Mountain, where the Western Tanager frequents oak-coniferous woodland, our high count was 35 from 18 to 20 June 1986.

BLACK-HEADED GROSBEAK (*Pheucticus melanocephalus*). Common on Big Pine Mountain, fairly common on Figueroa Mountain and Mount Pinos, and uncommon on Pine Mountain.

LAZULI BUNTING (*Passerina amoena*). Uncommon to fairly common fall transient (mid-July through August) on all four mountains and uncommon and irregular summer resident on all except Mount Pinos. In 1992, unusually high numbers were singing on territory in montane chaparral on Big Pine Mountain (e.g., 10 on 6 June, M. Holmgren pers. comm.) and Pine Mountain (6 on 11 June). Adequate seasonal rainfall may have influenced their abundance that year.

▲**GREEN-TAILED TOWHEE** (*Pipilo chlorurus*). Common on Mount Pinos, fairly common on Pine Mountain, a rare visitor on Big Pine Mountain, and absent from Figueroa Mountain. It breeds on all the major mountain ranges west of the deserts in southern California (Garrett and Dunn 1981).

Green-tailed Towhees are plentiful on Mount Pinos, where they were first recorded by Grinnell (1905). On Pine Mountain, they frequent open rocky chaparral of Wax Currant, Bitter Cherry, Manzanita, and *Ceanothus* along Pine Mountain Road. Our high count here was 13 on 9 and 10 June 1989.

From Big Pine Mountain, Bartholomew's (1940:18) record of "five birds in chokecherry thickets on Big Pine Mountain June 7 and July 7, 1938" precedes Lehman's (1982:328) cited vague record of "2 or 3 individuals during the late 1950s or early 1960s." We found none from 1981 through 1990. On 27 June 1991, we located a singing male in the West Big Pine area, on a rocky slope with scattered shrubs of Rabbitbrush (*Chrysothamnus* sp.), *Ceanothus*, Sierra Gooseberry (*Ribes roezlii*), and Elderberry (*Sambucus mexicana*). P. Collins could not find it on 12 July 1991. On 6 June 1992, M. Holmgren observed a singing male in the Bitter Cherry-Western Chokecherry thicket north of the Big Pine Road, but we could not relocate it between 25 and 27 June of that year. On 12 June 1993 we saw a singing male in the same location.

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RUFOUS-SIDED TOWHEE (*Pipilo erythrophthalmus*). Common on Big Pine Mountain, fairly common on Figueroa and Pine mountains, and uncommon on Mount Pinos.

CALIFORNIA TOWHEE (*Pipilo crissalis*). Rare, occurring regularly on Figueroa Mountain only. On Big Pine Mountain, we observed 3 in the Alamar Saddle area on 19 July 1982.

RUFOUS-CROWNED SPARROW (*Aimophila ruficeps*). Uncommon on Figueroa Mountain. Two records for Big Pine Mountain: P. Collins saw 1 on 2 July 1987, and we saw 1 on 22 June 1990. Unrecorded on Pine Mountain and Mount Pinos at elevations surveyed.

CHIPPING SPARROW (*Spizella passerina*). Fairly common to common on all the mountains surveyed.

BLACK-CHINNED SPARROW (*Spizella atrogularis*). Fairly common summer resident on Pine Mountain; no records for Figueroa Mountain and Mount Pinos at the elevations surveyed. The only Big Pine Mountain record between 1981 and 1991 was of 1 on 22 June 1989; then, in 1992, large numbers arrived: 23 were along the Big Pine Road in patches of montane chaparral on 6 June 1992 (M. Holmgren pers. comm.), and on 10 June 1993 we observed a male and female carrying food on West Big Pine. On Pine Mountain, we counted 15 on 11 and 12 June 1992, the high total there. Variation in the abundance of the species appears to be tied to variation in rainfall totals.

LARK SPARROW (*Chondestes grammacus*). Fairly common on Figueroa Mountain, but there are no records for the other mountains at the elevations surveyed.

SAGE SPARROW (*Amphispiza belli*). Rare to uncommon summer visitor on all the mountains surveyed. It breeds at lower elevations, and its occurrence during June and July in montane habitats is likely due to postbreeding upslope movement. Two were on Big Pine Mountain in open pine forest on 30 June 1981 (Lehman 1982), and we saw 1 there in montane chaparral on 27 June 1992.

▲FOX SPARROW (*Passerella iliaca*). Common on all the mountains surveyed except Figueroa Mountain, from which it is absent. The species breeds commonly in the San Gabriel, San Bernardino, and San Jacinto mountains (Garrett and Dunn 1981).

From Big Pine Mountain, Bartholomew's (1940:19) record of Fox Sparrows nesting "in numbers" on Big Pine Mountain precedes our visit of 29 June to 1 July 1981, when our discovery of a sizeable population of Fox Sparrows was thought to be the first summering record of the species for Santa Barbara County (Lehman 1982). Thirty individuals from 21 to 25 June 1988 (M. Holmgren pers. comm., specimen in breeding condition in UCSB) is the high count for the Big Pine Mountain area. Fox Sparrows inhabit the thickets of Bitter Cherry, Western Chokecherry, and *Ceanothus* bordered by coniferous forest. The species also breeds farther west on San Rafael Mountain, where our high count was 26 from 18 to 20 June 1982, although numbers there have since declined.

On Pine Mountain, Fox Sparrows frequent patches of montane chaparral within the coniferous forest in more shaded locations on the north slope, in contrast to the Green-tailed Towhees, which reside in thickets in the sunnier areas of the mountain.

Grinnell (1905:388) first recorded Fox Sparrows on Mount Pinos as "fairly numerous." We found them most commonly from Iris Meadow to the summit of Mount Pinos and along the Grouse Mountain trail. The nesting birds of all three mountains are the large-billed race, *P. i. stephensi*, which breeds in the mountains of southern California.

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▲**LINCOLN'S SPARROW** (*Melospiza lincolni*). Rare and irregular only on Mount Pinos. It breeds sparingly in the San Gabriel, San Bernardino, and San Jacinto mountains (Garrett and Dunn 1981) (AB 39:963).

Lincoln's Sparrows were first found nesting on Mount Pinos at Iris Meadow on 18 June 1978 (AB 32:907). Subsequently, 1 or 2 pairs have bred there irregularly: we observed 5 including juveniles on 12 July 1988. No nesting occurred from 1989 through 1992.

▲**DARK-EYED JUNCO** (*Junco hyemalis*). The subspecies *J. h. thurberi* is common on all of the mountains studied, as it is throughout montane areas of southern California (Garrett and Dunn 1981).

BREWER'S BLACKBIRD (*Euphagus cyanocephalus*). Uncommon in the Mount Pinos area only. There are no records for the other mountains surveyed.

BROWN-HEADED COWBIRD (*Molothrus ater*). Uncommon on Mount Pinos and rare to uncommon on Big Pine Mountain. I have no records for Figueroa and Pine mountains.

NORTHERN ORIOLE (*Icterus galbula*). One sighted on Big Pine Mountain on 1 July 1981 (Lehman 1982) was undoubtedly an early fall migrant.

▲**PURPLE FINCH** (*Carpodacus purpureus*). Common on Big Pine Mountain, fairly common on Figueroa Mountain, and uncommon on Pine Mountain and Mount Pinos. It breeds in all the major mountain ranges of southern California (Garrett and Dunn 1981).

On Big Pine Mountain, Purple Finches are common, with 30 on 30 June and 1 July 1981 being the high count (Lehman 1982). Numbers have declined somewhat in recent years: we saw 10 there from 21 to 23 June 1990.

Farther east, on Pine Mountain and Mount Pinos, Purple Finches are greatly outnumbered by Cassin's Finches. Where both species overlap, Purple Finches occupy the more mesic sections of the coniferous forest, such as along the Raspberry Spring trail on Pine Mountain and along the McGill and Grouse Mountain trails in the Mount Pinos region.

▲**CASSIN'S FINCH** (*Carpodacus cassinii*). Common on Mount Pinos, fairly common on Pine Mountain, uncommon and irregular on Big Pine Mountain; one summer record for Figueroa Mountain. The species breeds at higher elevations in the San Gabriel, San Bernardino, and San Jacinto mountains (Garrett and Dunn 1981).

On Mount Pinos, Cassin's Finches have been recorded commonly since Grinnell's visit in 1904 (Grinnell 1905). On Pine Mountain, they breed in moderate numbers in the open coniferous forest along the Pine Mountain Road.

On Big Pine Mountain, 7 individuals were noted on 30 June and 1 July 1981 (Lehman 1982). For the next 10 years, sightings there were occasional, until 12 July 1991 when P. Collins observed 13 of the species, chiefly on Big Pine summit and at West Big Pine (specimen in breeding condition in SBMNH). He observed juveniles being fed by an adult, a first breeding record for Santa Barbara County. Farther west, on San Rafael Mountain, our high count was 9 on 18 and 19 June 1982. Lehman (1982) observed 2 on Figueroa Mountain on 17 June 1981.

HOUSE FINCH (*Carpodacus mexicanus*). Fairly common on Figueroa Mountain, uncommon on Big Pine and Pine mountains, and rare on Mount Pinos.

▲**RED CROSSBILL** (*Loxia curvirostra*). Uncommon and somewhat irregular on Mount Pinos and a rare and irregular summer visitor on the other mountains surveyed. The species is believed to nest in the San Gabriel, San Bernardino, and San Jacinto mountains, but nonbreeding individuals have been collected in midsummer on all of these mountain ranges (Garrett and Dunn 1981).

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Red Crossbills have bred irregularly in small numbers on Mount Pinos since 1904, when Grinnell collected an adult pair (Grinnell 1905). The high count is 50 on Mount Pinos on 4 July 1984 (AB 38:1063). We noted 10 including juveniles at Iris Meadow on 12 July 1988; more recently, we counted 28 in the Mount Pinos/Mount Abel area from 11 to 13 July 1991.

There are a few summer records for this species on the other three mountains: on Pine Mountain, 2 on 10 June 1989, 3 on 5 August 1990 (M. Holmgren pers. comm.), and 8 on 8 June 1991; on Big Pine Mountain, 2 on 21 July 1982, 4 from 21 to 25 June 1988 (M. Holmgren pers. comm., specimen in nonbreeding condition in UCSB), and 1 immature on 21 June 1989 (P. Collins pers. comm., specimen in SBMNH); on Figueroa Mountain, 1 on 6 July 1983 and 2 on 26 July 1984 (P. Lehman pers. comm.). Also, a flock of 15 was on San Rafael Mountain on 17 June 1990 (G. and J. Hardie pers. comm.).

▲PINE SISKIN (*Carduelis pinus*). Uncommon to fairly common on Mount Pinos, two summer records for Figueroa Mountain, and none for Pine Mountain or Big Pine Mountain. Siskins breed fairly commonly in the San Gabriel, San Bernardino, and San Jacinto Mountains (Garrett and Dunn 1981).

First noted by Grinnell (1905), this species is fairly common on Mount Pinos/Mount Abel, our high count being 11 on Mount Pinos on 6 July 1989. On Figueroa Mountain, 1 was seen on 24 June 1981 (Lehman 1982) and 2 were there on 4 June 1988 (P. Lehman pers. comm.).

LESSER GOLDFINCH (*Carduelis psaltria*). Fairly common on Figueroa Mountain, uncommon summer resident on Big Pine Mountain, and rare on Pine Mountain. There are no records for Mount Pinos.

LAWRENCE'S GOLDFINCH (*Carduelis lawrencei*). Uncommon and irregular on Mount Pinos, Pine Mountain, and Big Pine Mountain, and rare on Figueroa Mountain.

▲EVENING GROSBK (Coccothraustes vespertinus). Rare and irregular summer visitor on Mount Pinos, Big Pine Mountain, and Figueroa Mountain; no records for Pine Mountain. The species is an irregular transient in the mountain ranges of southern California west of the deserts (Garrett and Dunn 1981), the closest breeding area being in the southern Sierra Nevada at Badger, Tulare County (Grinnell and Miller 1944).

The records for Mount Pinos/Mount Abel are of 2 on 31 May 1930 (Willet 1933), 1 on 24 July 1986 on Mount Pinos (AB 40:1256), and 1 on 8 June 1991 on Mount Abel (R. Moore pers. comm.). Four were on Big Pine Mountain on 1 July 1981 (Lehman 1982). Two were on Figueroa Mountain on 17 June 1981, and 2 were there on 15 and 16 May 1982 (both Lehman 1982).

DISCUSSION

Tables 1–4 compare the occurrence of montane (boreal) species at the four study areas and at selected major mountain ranges in southern California and the southern Sierra Nevada. Although obtaining breeding evidence for a species was not the primary purpose of the survey, I noted breeding by most of the montane birds observed. The breeding criteria are those recommended for North American breeding bird atlases (Smith 1990).

Johnson (1975) suggested several variables contributing to the presence or absence of a species on biogeographical islands like these: the island's total size, the extent of forest, the width of the barrier between one island

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Table 1 Breeding Status of Montane Species in Four Areas of Santa Barbara, Ventura, and Kern Counties^a

	Mt. Pinos	Pine Mtn.	Big Pine Mtn.	Figueroa Mtn.
N. Goshawk	B+	—	—	—
Blue Grouse	E?	—	—	—
Mountain Quail	B	B	B	B
Flammulated Owl	B	—	B'	—
N. Pygmy-Owl	B	B	B	B
Spotted Owl	B	B	B	B
N. Saw-whet Owl	B	B''	B	B
Calliope Hummingbird	B	SV	SV	—
Red-breasted Sapsucker	B	B	B	—
Williamson's Sapsucker	B''	B+	—	—
White-headed Woodpecker	B	B	B	SV
Olive-sided Flycatcher	B	B	B	B
Dusky Flycatcher	B	B	B	—
Steller's Jay	B	B	B	B
Clark's Nutcracker	B	SV	—	—
Mountain Chickadee	B	B	B	B
Red-breasted Nuthatch	B	B''	B	B''
Pygmy Nuthatch	B	B	B	B
Brown Creeper	B	B	B	B
Golden-crowned Kinglet	B	B'	B	—
Ruby-crowned Kinglet	E	—	—	—
Mountain Bluebird	SV	—	—	—
Townsend's Solitaire	B	B	—	—
Hermit Thrush	B	—	SV	—
Solitary Vireo	B	B''	B	B
Nashville Warbler	B''	—	B+	—
Yellow-rumped Warbler	B	B	B	—
Hermit Warbler	SV	—	—	—
MacGillivray's Warbler	B''	—	B''	—
Wilson's Warbler	B+	SV	—	—
Western Tanager	B	B	B	B
Green-tailed Towhee	B	B	B''	—
Fox Sparrow	B	B	B	—
Lincoln's Sparrow	B+	—	—	—
Dark-eyed Junco	B	B	B	B
Purple Finch	B	B	B	B
Cassin's Finch	B	B	B+	SV
Red Crossbill	B	SV	SV	SV
Pine Siskin	B	—	—	SV
Evening Grosbeak	SV	—	SV	SV

^aB, confirmed breeding; B+, breeding confirmed but irregular, not annual; B', probably breeding; B'', possibly breeding; SV, summer visitor, no breeding evidence; E, extirpated, formerly bred.

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Table 2 Breeding Status of Montane Species in the Southern Sierra Nevada and Five Areas of Southern California^a

	S. Sierra Nevada	Mt. Pinos	San Rafael Mtns.	San Gabriel Mtns.	San Bernardino Mtns.	San Jacinto Mtns.
N. Goshawk	B	B+	—	—	SV	B''
Blue Grouse	B	E?	—	—	—	—
Mountain Quail	B	B	B	B	B	B
Flammulated Owl	B	B	B'	B	B	B'
N. Pygmy-Owl	B	B	B	B	B	B
Spotted Owl	B	B	B	B	B	B
N. Saw-whet Owl	B	B	B	B	B	B
Calliope Hummingbird	B	B	SV	B	B	B
Red-breasted Sapsucker	B	B	B	B	B	B
Williamson's Sapsucker	B	B''	—	B	B	B
White-headed Woodpecker	B	B	B	B	B	B
Olive-sided Flycatcher	B	B	B	B	B	B
Dusky Flycatcher	B	B	B	B	B	B
Steller's Jay	B	B	B	B	B	B
Clark's Nutcracker	B	B	—	B	B	B
Mountain Chickadee	B	B	B	B	B	B
Red-breasted Nuthatch	B	B	B	B	B	B
Pygmy Nuthatch	B	B	B	B	B	B
Brown Creeper	B	B	B	B	B	B
Golden-crowned Kinglet	B	B	B	SV	B	B
Ruby-crowned Kinglet	B	E	—	E	SV	E
Mountain Bluebird	B	SV	—	—	B	—
Townsend's Solitaire	B	B	—	B	B	B
Hermit Thrush	B	B	SV	B	B	B''
Solitary Vireo	B	B	B	B	B	B
Nashville Warbler	B	B''	B+	B+	B'	B'
Yellow-rumped Warbler	B	B	B	B	B	B
Hermit Warbler	B	SV	—	B'	B	SV
MacGillivray's Warbler	B	B''	B''	B	B	B'
Wilson's Warbler	B	B+	—	B	B	—
Western Tanager	B	B	B	B	B	B
Green-tailed Towhee	B	B	B''	B	B	B
Fox Sparrow	B	B	B	B	B	B
Lincoln's Sparrow	B	B+	—	B	B	B
White-crowned Sparrow	B	—	—	—	B	—
Dark-eyed Junco	B	B	B	B	B	B
Purple Finch	B	B	B	B	B	B
Cassin's Finch	B	B	B+	B	B	B
Red Crossbill	B	B	SV	B	B	B
Pine Siskin	B	B	—	B	B	B
Evening Grosbeak	B	SV	SV	SV	SV	SV

^aB, confirmed breeding; B+, breeding confirmed but irregular, not annual; B', probably breeding; B'', possibly breeding; SV, summer visitor, no breeding evidence; E, extirpated, formerly bred. The list for the southern Sierra Nevada includes only those species currently or formerly occurring in southern California.

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Table 3 Comparison of Numbers of Montane Species Occurring in Summer in Four Areas of Santa Barbara, Ventura, and Kern Counties^a

	Mt. Pinos	Pine Mtn.	Big Pine Mtn.	Figueroa Mtn.
Total montane species recorded	38	28	29	19
Confirmed, probable and possible breeders	35	24	25	14
Confirmed breeders only	32	20	22	13

^aData from Table 1.

and another, elevation of the highest peak, latitude of the highest peak, and diversity of habitat.

On the mountains I studied, the single most important factor influencing the distribution of montane birds appeared to be the extent of habitat suitable for a species. Three key variables—extent of coniferous forest, elevation, and rainfall—contributed to habitat suitability. Another factor—nearness to other mountaintops—seemed to influence distribution, but its effect on the various species was much more difficult to measure. Figure 10 shows approximate distances between the study areas and the extent of coniferous forest found on each.

Table 3 compares the numbers of species of montane birds on the four mountains studied. It shows that Mount Pinos has 11 confirmed or likely breeders not known to have attempted breeding on Pine Mountain 16 miles to the southwest (Northern Goshawk, Flammulated Owl, Calliope Hummingbird, Clark’s Nutcracker, Hermit Thrush, Nashville Warbler, MacGillivray’s Warbler, Wilson’s Warbler, Lincoln’s Sparrow, Red Crossbill, and Pine Siskin).

The lack of sufficient high-elevation coniferous woodland on Pine Mountain probably contributes to the absence of the Northern Goshawk and

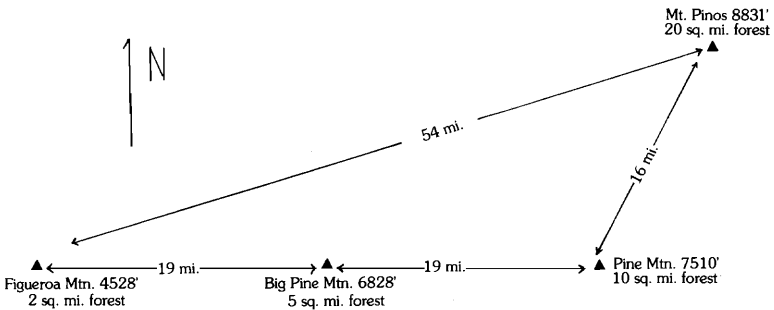


Figure 10. Comparison of relative distances between and extent of coniferous forest on the four isolated mountaintops.

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Clark's Nutcracker there. Very few patches of White Fir exist, and the high, open Limber Pine habitat at the summit of Mount Pinos, which is attractive to the nutcrackers, is not found on Pine Mountain. The absence of moist chaparral and wet meadows (due to edaphic conditions) on Pine Mountain may preclude the Hermit Thrush, Nashville Warbler, MacGillivray's Warbler, Wilson's Warbler, and Lincoln's Sparrow from attempting to breed there. Small tracts of habitat on Pine Mountain appear suitable for the Calliope Hummingbird, Red Crossbill, and Pine Siskin, but they are not extensive enough to induce these species to nest there.

Pine Mountain and Big Pine Mountain are very close in number of breeding montane species. Pine Mountain, though higher and supporting nearly twice as much coniferous forest, has one fewer species of montane breeder than does Big Pine Mountain. Of the montane species possibly breeding on Pine Mountain, only Williamson's Sapsucker and Townsend's Solitaire do not occur on Big Pine Mountain. Likely these two species have altitudinal requirements that cannot be met by the comparatively low-elevation forest on Big Pine. There is only one record of Williamson's Sapsucker on Pine Mountain, and Townsend's Solitaire would not find on Big Pine Mountain the steep, high canyons it favors for breeding. In contrast, on Big Pine Mountain, the Flammulated Owl, Nashville Warbler and MacGillivray's Warbler are present, though absent from Pine Mountain. The paucity of the moist chaparral understory on Pine Mountain probably contributes to the absence of these species there. The confirmed breeding of Nashville Warbler and the possible breeding of MacGillivray's Warbler on Big Pine Mountain attest to the more mesic conditions fostering dense montane chaparral in certain locations there. The presence of the Flammulated Owl on Big Pine Mountain (and on Mount Pinos but not on intervening Pine Mountain) shows this species may be absent from suitable habitat for no apparent reason or that the mix of coniferous and oak woodland on Big Pine Mountain is somehow more attractive.

The Green-tailed Towhee, which is fairly common on Pine Mountain, has attempted breeding on Big Pine Mountain in the past three years and may have been more numerous there formerly. Perhaps it is a rare and irregular

Table 4 Comparison of Numbers of Montane Species Occurring in Summer in the Southern Sierra Nevada and Five Areas of Southern California^a

	S. Sierra Nevada	Mt. Pinos	San Rafael Mtns.	San Gabriel Mtns.	San Bernardino Mtns.	San Jacinto Mtns.
Total montane species recorded	41	38	29	36	40	36
Confirmed, probable, and possible breeders	41	35	25	34	37	34
Confirmed breeders only	41	32	22	33	36	29

^aData from Table 2. The list for the southern Sierra Nevada includes only those species currently or formerly occurring in southern California.

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breeder on Big Pine, preferring the more arid climate and higher elevations found on Pine Mountain.

Eleven species have attempted breeding on Big Pine Mountain but are absent from Figueroa Mountain (Flammulated Owl, Red-breasted Sapsucker, White-headed Woodpecker, Dusky Flycatcher, Golden-crowned Kinglet, Nashville Warbler, Yellow-rumped Warbler, MacGillivray's Warbler, Green-tailed Towhee, Fox Sparrow and Cassin's Finch). Of these, all but the Golden-crowned Kinglet, Nashville Warbler, MacGillivray's Warbler, and Green-tailed Towhee are found as far west as San Rafael Mountain, only 10 miles east of Figueroa Mountain.

In the Figueroa Mountain area, the lower elevation entails coniferous forest and montane chaparral being less extensive and the number of montane species being much lower. Most of the montane birds breeding on Figueroa Mountain are generalists tolerating oaks extensively mixed with lower-elevation conifers such as Coulter and Ponderosa pines.

An exception appears to be the Red-breasted Nuthatch, which has been present in summer in small numbers in the Figueroa Mountain area for the past three years, attracted by the rather mesic conditions there. Red-breasted Nuthatches and Golden-crowned Kinglets are examples of montane species whose habitat preferences are more affected by rainfall and humidity than by elevation. They are dependent upon a moist forest habitat and both are much more common on Big Pine Mountain than they are farther east on the more arid Mount Pinos and Pine Mountain, despite the latter peaks' supporting much more coniferous forest—and at higher elevation—than does Big Pine Mountain.

Thus, although the number of montane species generally declines from east to west and from the highest mountain to the lowest, the drop-off is not uniform.

Table 4 compares species totals of the Mount Pinos region, the San Rafael Mountains (including Big Pine and Figueroa mountains), the southern Sierra Nevada, and three southern California mountain ranges. Evidently, the San Bernardino Mountains have the most extensive montane avifauna in southern California and that of the San Rafael Mountains is somewhat impoverished in comparison.

SUMMARY

From 1981 to 1993, I and others censused the breeding avifaunas of four mountaintops in Santa Barbara, Ventura, and Kern counties, emphasizing the montane species. Because much had already been published concerning the montane species of the Mount Pinos region of nearby Ventura and Kern counties, most of the field work focused on the San Rafael Mountains, particularly the Big Pine Mountain area. Because of their inaccessibility, the San Rafael Mountains had received very little ornithological exploration prior to our work there.

Ten montane species not previously known to breed in Santa Barbara County were discovered in the Big Pine Mountain area: Flammulated Owl, Red-breasted Sapsucker, White-headed Woodpecker, Dusky Flycatcher,

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Red-breasted Nuthatch, Golden-crowned Kinglet, Nashville Warbler, Yellow-rumped Warbler, Fox Sparrow and Cassin's Finch. We also located on Big Pine Mountain three montane species previously thought to be unrecorded in summer in Santa Barbara County: Calliope Hummingbird, MacGillivray's Warbler, and Green-tailed Towhee (although a newly discovered record for the towhee shows it was present there in the 1930s).

Comparison of the summering avifaunas of the four high mountains in Santa Barbara, Ventura, and adjacent Kern counties with those of the major mountain ranges in southern California suggests that extent of suitable habitat (governed by elevation, rainfall, and soil type) is the primary factor influencing the distribution of montane species on these mountaintops.

ACKNOWLEDGMENTS

I am greatly indebted to the following individuals who generously shared their notes and observations and who visited the survey area in the 1970s or helped with the current study: Larry Allen, Larry R. Ballard, Louis Bevier, Allyn Bissell, Bruce Broadbooks, Hank Brodtkin, Mark O. Chichester, Paul W. Collins, Jon L. Dunn, Robert O. Easton, Shawneen E. Finnegan, Kimball L. Garrett, Jesse Grantham, Hank and Jan Hamber, George and Joan Hardie, Mark A. Holmgren, Paul E. Lehman, Barbara Millett, Randy J. Moore, Jean Okuye, Florence Sanchez, Nancy Sandburg, Larry Sansone, John Schmitt, Brad Schram, Guy Tingos, T. Dion Warren, and Richard E. Webster. I am especially grateful to Larry Ballard, Louis Bevier, Paul Collins, Jon Dunn, Kimball Garrett, Paul Lehman, Mark Holmgren, and Richard Webster, who read and commented on the manuscript and without whose cooperation and encouragement this project would not have been possible.

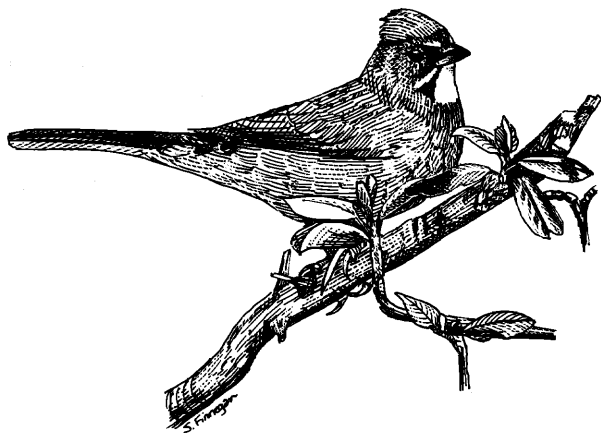
LITERATURE CITED

- Barbour, M. G., and Major, J. (eds.) 1988. Terrestrial Vegetation of California, 2nd ed. Spec. Publ. Ser. 9, Calif. Native Plant Soc., Sacramento.
- Bartholomew, P. S. 1940. Bird life of the Gibraltar study area. Los Padres National Forest, California Region, U. S. Forest Service.
- Bendell, J. F., and Zwickel, F. C. 1984. A survey of the biology, ecology, abundance, and distribution of the Blue Grouse (genus *Dendragapus*), in Third International Grouse Symposium, pp. 163-192. World Pheasant Assoc., Reading, England.
- Dawson, W. L. 1923. The Birds of California. South Moulton Co., San Diego.
- Dickey, D. R., and van Rossem, A. J. 1923. Description of a new grouse from southern California. Condor 25:168-169.
- Gaines, D. 1988. Birds of Yosemite and the East Slope. Artemisia Press, Lee Vining, CA.
- Garrett, K., and Dunn, J. 1981. Birds of Southern California: Status and Distribution. Los Angeles Audubon Soc., Los Angeles.
- Grinnell, J. 1905. Summer birds of Mount Pinos, California. Auk 22:378-391.
- Grinnell, J., and Miller, A. H. 1944. The distribution of the birds of California. Pac. Coast Avifauna 27.
- Grinnell, J., and Swarth, H. S. 1913. Boreal fauna of San Jacinto Peak compared with that of other mountains of southern California. Univ. Calif. Publ. Zool. 10:383-387.
- Hall, E. M. 1940. Saw Whet Owl nest on Mount Pinos. Condor 42:306.

BIRDS OF FOUR ISOLATED MOUNTAINS

- Johnson, N. K. 1975. Controls of number of bird species on montane islands in the Great Basin. *Evolution* 29:545-567.
- Koford, C. B. 1953. *The California Condor*. Natl. Audubon Soc. Res. Rep. 4. Natl. Audubon Soc., New York.
- Lehman, P. 1982. The status and distribution of the birds of Santa-Barbara County, California. Master's thesis, Univ. of Calif., Santa Barbara.
- Metcalf, T. N. 1967, 1972 (rev.). The birds of Santa Barbara and Ventura Counties, California. *Santa Barbara Mus. Nat. Hist. Occ. Paper* 8.
- Miller, A. H. 1951. An analysis of the distribution of the birds of California. *Univ. Calif. Publ. Zool.* 50:531-644.
- Miller, A. H., and Benson, S. B. 1930. The summer resident birds of the boreal and transition life-zones of Mount Pinos, California. *Condor* 32:101-104.
- Miller, L. 1936. The Flammulated Screech Owl on Mount Pinos. *Condor* 38:228-229.
- Norris, R. M., and Webb, R. W. 1990. *Geology of California*, 2nd ed. Wiley, New York.
- Smith, C. R. (ed.) 1990. *Handbook for Atlasing American Breeding Birds*. Vt. Inst. Nat. Sci., Woodstock, VT.
- Snyder, N. F., and Hamber, J. A. 1985. Replacement-clutching and annual nesting of California Condors. *Condor* 87:374-378.
- Webster, R., Lehman, P., and Bevier, L. 1980. Birds of Santa Barbara and Ventura counties, California. *Santa Barbara Mus. Nat. Hist. Occ. Paper* 10.
- Weiss, S. 1979. Mount Pinos Blue Grouse study report. U. S. Forest Service, Los Padres National Forest, Mount Pinos District, Frazier Park, CA 93225.
- Willett, G. 1933. A revised list of the birds of southwestern California. *Pac. Coast Avifauna* 21.

Accepted 25 June 1993



Green-tailed Towhee

Sketch by Shawneen Finnegan