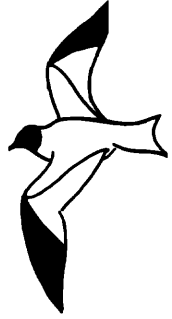


# WESTERN BIRDS



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## **HAVE ORNITHOLOGISTS OR BREEDING RED-BREASTED SAPSUCKERS EXTENDED THEIR RANGE IN COASTAL CALIFORNIA?**

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Grinnell and Miller (1944) mapped the breeding range of Red-breasted Sapsucker (*Sphyrapicus ruber*) in coastal California as extending south in Mendocino County to just below the Big River on the west and to Mt. Sanhedrin on the east (Figure 1). The recent discovery of Red-breasted Sapsuckers breeding in coastal Marin County about 165 km south of this limit (Laymon and Shuford 1980, Shuford 1985) and the knowledge of a number of recent unpublished breeding records from northern Sonoma County (B.D. Parmeter pers. comm) prompted me to investigate the extent of this apparent range extension. I also examined the question of whether this was a true extension of the species' breeding range or just an artifact of more thorough coverage of a previously neglected area.

### METHODS

To document the extent of the apparent range extension I thoroughly searched both the published literature and sources of unpublished records. I gave particular attention to the regional editors' notebooks of the Middle Pacific Coast region (northern California) of *American Birds* and the museum collections of the Museum of Vertebrate Zoology (MVZ), Berkeley, and the California Academy of Sciences, San Francisco. I also corresponded with all observers that I knew to have made recently more than casual investigations of the birdlife of southern Mendocino County, adjacent Lake County, and coastal Sonoma and Marin counties. Records that I considered to document the extension of the breeding range either (1) confirmed breeding, i.e., were of adults feeding nestlings or fledglings, or (2) were of adults in appropriate breeding habitat outside the period of 16 September through 21 April, which is the span of extreme dates of migrant/wintering birds in lowland California (*Bird Lore/Audubon Field Notes/American Birds* [Middle and Southern Pacific Coast regions] 1917-1985, Grinnell and

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Wythe 1927, Grinnell and Miller 1944, Sibley 1952, regional editors' notebooks for the Middle Pacific Coast region of *American Birds* 1954-1985, Gaines 1974, Bolander and Parmeter 1978, McCaskie et al. 1979, Davis et al. 1980, DeSante and Ainley 1980, Webster et al. 1980, Garrett and Dunn 1981, Laymon 1981, Roberson 1985).

Evidence for assessing the thoroughness of prior field work in the area in question I collected by inspecting the number of records (primarily specimens) of other coniferous forest species plotted on the distribution maps in Grinnell and Miller (1944), by checking all pertinent references in that publication, and by thoroughly checking the hundreds of notebooks of the field workers from MVZ, which, along with those workers' specimen collections, were Grinnell and Miller's (1944) primary source of information for describing the distribution of the state's avifauna.

## RESULTS

Recent records extend the known breeding range of Red-breasted Sapsucker in California south and east in the interior Coast Range of the southern Yolla Bolly region of the Mendocino National Forest as far as Lake County and continuously south along the coast to northern Sonoma County. Also, a small isolated population occurs in Marin County (Figure 1, Appendix 1).

All sources indicate that up to the time of the publication of Grinnell and Miller (1944) the area of the apparent range extension received only minimal ornithological investigation. Grinnell and Miller cite only three main references on Mendocino County's breeding birds (McGregor 1896, Stone 1904, Mailliard 1919), and these are all short accounts based on field work in limited areas over a short time span. Because Grinnell and Miller's work was based in large part on specimens and unpublished records these sources should shed the most light on the amount of investigation in the area of apparent range extension. Grinnell and Miller's distribution maps of other coniferous forest species, such as Pygmy Owl, Hairy Woodpecker, Steller's Jay, Chestnut-backed Chickadee, and Brown Creeper, show only from one to four localities per species in the coastal areas of southern Mendocino and northern Sonoma counties. The single record of Hairy Woodpecker, a species that breeds along the whole length of coastal northern California, is telling. Since this region is in the heart of the breeding range of this species, which they considered "common" or sometimes "abundant" (Grinnell and Miller 1944), it stands to reason that the single record indicates a dearth of field work rather than a dearth of Hairy Woodpeckers.

The notebooks of MVZ field workers indicate only one major collecting trip to southern Mendocino and northern Sonoma counties. A.C. Shelton, W.P. Taylor, and their co-workers made an extended collecting trip from the Point Reyes area of Marin County to the southern Yolla Bolly region of northwestern Mendocino County from 26 May to 24 August 1913 (unpubl. field notes in MVZ). They were in the area of the apparent range extension from 26 May to 17 July and made encampments for collecting 3 miles west of Inverness, Marin Co. (26 May to 9 June), at Freestone, Sonoma Co. (10 to 19 June), 7 miles west of Cazadero, Sonoma Co. (19 to 27 June), at the mouth

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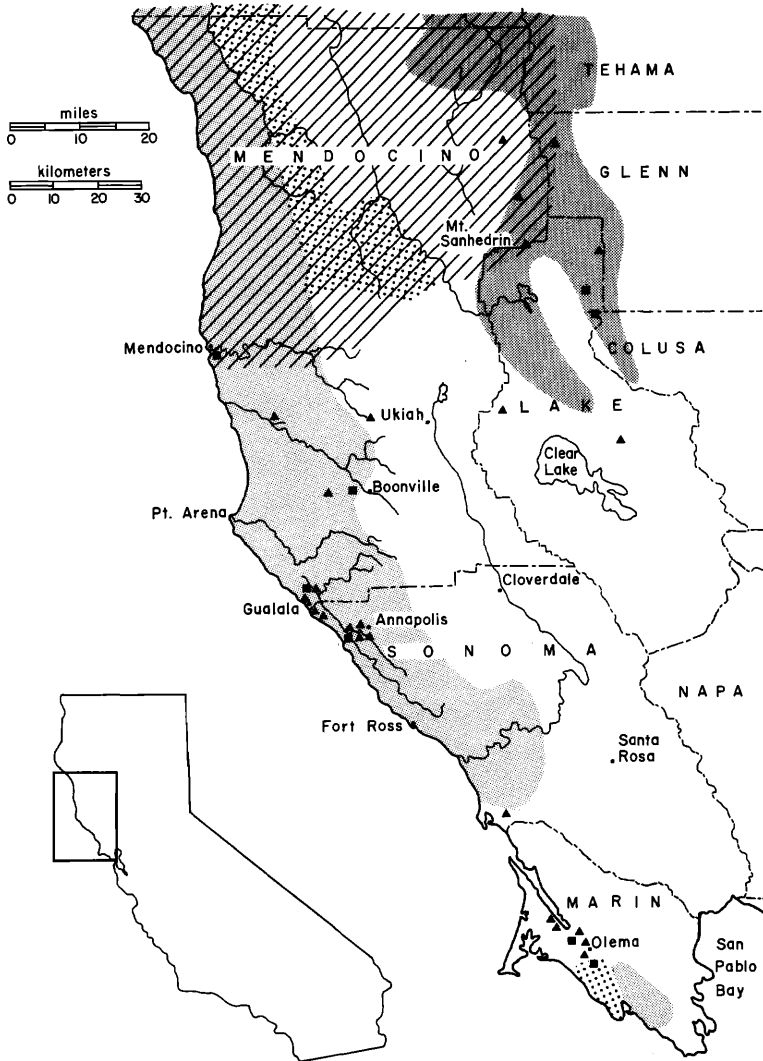


Figure 1. Southern extent of the breeding range of the Red-breasted Sapsucker in the Coast Range of California. Hatched northern area is the range reported by Grinnell and Miller (1944:235). Various shadings indicate the extent of coniferous and associated forests (Wieslander and Jensen 1945): light stippling along the coast represents coast redwood forest, widely spaced dots represent Douglas fir forest, and dense stippling towards the interior represents ponderosa pine forest. Recent records with confirmed evidence of breeding, i.e., adults feeding young, are indicated by squares, and sight or specimen records of birds in the breeding season are indicated by triangles. Individual records are listed in Appendix 1.

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of the Gualala R., Sonoma Co. (28 June to 7 July), and at the town of Mendocino, Mendocino Co. (8 to 17 July). Apparently most of the records of all species plotted for this region in Grinnell and Miller's (1944) distribution maps were from the collections of this single expedition. Although the trip was of rather long duration, the limited number of sites sampled (because of dependence on rail and wagon transportation), the preoccupation with running trap lines to collect mammals, and the extensive time spent preparing bird and mammal specimens (Shelton, unpubl. field notes) together suggest that the expedition easily could have missed Red-breasted Sapsuckers, which are presently rare at the southern limit of their coastal range.

## DISCUSSION

Grinnell and Miller (1944) was one of the first regional avifaunas in North America to include breeding range maps, for almost all species with more than one subspecies (Robbins 1982). These maps were based of necessity, because of the large area covered and small number of observers at that time, on records collected over a long time span. A quick inspection of any of their maps of widespread species shows that the records are clumped in areas given the greatest attention by collectors and that many areas have few if any records. The ranges shown by shading were inferred from the distribution of actual records. Such mapping by inference usually works well within the main range of a species because mappers generally know what habitats the species occurs in and how these habitats are distributed within the region in question. However, this technique often gives the false impression that a distribution is continuous when in fact it may be patchy, and the technique tends to give poor results on the edge of a species' range unless that area has been covered very thoroughly.

Red-breasted Sapsuckers in California breed primarily in moist conifer and mixed conifer forests or woodlands and bordering riparian associations dominated by aspens or alders (Grinnell and Miller 1944, Hemphill 1952, Shuford 1985). A map of the distribution of conifer forests in coastal northern California fits well with the current breeding distribution of Red-breasted Sapsuckers (Figure 1) and suggests that the former range (Grinnell and Miller 1944) was incompletely defined at its southern boundary because of insufficient field work in that area. Mapping on the basis of habitat distribution alone, however, has its pitfalls. Inaccuracies in habitat mapping would carry over to bird mapping. For example, Weislander and Jensen (1945) show a limited amount of Douglas fir forest in Marin County when in fact this forest extends northward to include the area of all the recent sapsucker breeding records in that county (Figure 1). I suspect the apparent lack of conifer forests in central Lake County in areas with breeding-season records of sapsuckers, according to Wieslander and Jensen (1945) (Figure 1), is due to inadequacies in vegetation mapping. Also, the classification of habitats for vegetation mapping may not be the most appropriate for mapping birds. Kuchler (1977), for example, mapped California's potential natural vegetation, i.e., what the vegetation would be under undisturbed conditions, of obviously limited applicability considering the current extent of disturbances to natural communities. In addition his mixed hardwood category includes

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associations both with and without conifers, rendering it inadequate for mapping sapsucker breeding distribution since sapsuckers generally do not occupy stands of pure hardwoods. Furthermore, species' ranges sometimes stop abruptly even when "appropriate habitat" (to the human observers' eye at least) continues on over great distances. Clearly, accurate mapping of bird distribution must be based on field work that provides systematic and complete coverage of an area. Additionally, the field work should be conducted intensively over a relatively few years since range changes might go undetected if data were collected infrequently over a long time span.

Ornithological exploration of coastal California north of San Francisco Bay has been spotty until the last decade, and still remains so in some areas. Since Grinnell and Miller's (1944) work exploration of Mendocino's avifauna has not progressed measurably. Hemphill's (1952) work on the avifauna of the southern Yolla Bolly Mountains of northeastern Mendocino and parts of adjacent counties gives a detailed account of breeding avifauna of the higher elevations of that area. However, it is the only major work on any part of Mendocino's avifauna since 1944. Today most advances in our knowledge of the distribution of California's avifauna are made by the contributions of amateurs through the regional reports of *American Birds* or publication of regional annotated bird lists. Coverage of the state is of course spotty and in some ways our knowledge of bird distribution reflects the distribution of bird students as much as the distribution of the birds themselves. For example, in the last decade only one resident of Mendocino County has regularly contributed to the Middle Pacific Coast regional reports in *American Birds* (OJK in Appendix 1) and, although a number of observers contribute from Sonoma County, the remoter northern regions of that county have only recently begun to be explored. The cluster of recent breeding records of Red-breasted Sapsucker near the Mendocino/Sonoma county border (Figure 1) appears to be due solely to a few observers making repeated trips to that area in the last 10 years (Appendix 1 and pers. comm.). Although observers have covered Marin County reasonably well in the last 20 years, all sapsucker breeding records there have been obtained during or since the intensive field work carried out during the Marin County Breeding Bird Atlas project from 1976 to 1982 (Shuford in prep.).

The evidence does not completely exclude the possibility that the apparent range extension of Red-breasted Sapsuckers may be due all or in part to an actual expansion of sapsucker distribution since Grinnell and Miller's (1944) work. However, the limited prior exploration of coastal northern California argues more strongly that ornithologists have extended the range of their field work to document an area of previous occupation by sapsuckers. Range extensions of breeding sapsuckers in the higher mountains of San Diego County (Devillers 1970, Unitt 1981, McCaskie 1983, Unitt 1984) also appear to be a result of more thorough coverage of formerly poorly worked areas.

In a time of rapid human alteration of the environment it is more important than ever to document accurately range extensions and especially range contractions of birds. Presently it is frustrating to try to understand whether a species' range has contracted or expanded in historical times since in most areas we lack a systematically collected data base from which to evaluate

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perceived changes. Determining the extent and intensity of historic exploration involves time-consuming and tedious perusal of old field notebooks and often leaves unanswered questions. Although recent increases in the number and quality of field observers and greatly improved transportation both suggest that field coverage has been greater in modern times, this is not always true and needs to be investigated in all cases of apparent distributional changes. In California, and elsewhere, it is only the glaring examples of drastic declines in species such as the California Condor, Yellow-billed Cuckoo, and Bell's Vireo that capture our attention, and then often too late. If field ornithologists in the West are to make local distributional studies useful for historical comparison and for conservation there is an urgent need for widespread systematic breeding bird atlas work similar to the intensive efforts already initiated in northeastern North America and other parts of the world (Laughlin et al. 1982).

### ACKNOWLEDGMENTS

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### APPENDIX 1

Breeding-season records of Red-breasted Sapsuckers in coastal northern California since the publication of Grinnell and Miller (1944). Observers or collectors cited are Jack R. Arnold, Terry Babineaux, Karen Cartier, Doug Ellis, Ben Glading, Roger Harris, D.V. Hemphill, Emmy Hill, Ned K. Johnson, Oliver J. Kolkman, Edward H. McClintock, Benjamin D. Parmeter, John Parmeter, Mary Ann Sadler, Rich Stallcup, Robert M. Stewart, and Meryl Sundove. MVZ = Museum of Vertebrate Zoology, Berkeley.

#### *Glenn County*

19 Jul 1949 Plaskett Meadows, near Black Butte, 6000', ad. male (MVZ 149682, DVH)

7 Jun 1951 Sheetiron Mtn., summit 6400', ad. male (MVZ 149683, DVH)

#### *Lake County*

16 & 19 Jun 1950 Snow Mtn., Milk Ranch 6400', ad. male and female (MVZ 149679 and 149680, DVH)

24 Jun 1950 Snow Mtn., 6400', "feeding of young" (Hemphill 1952)

14 Jun 1970 & 21 May 1971 Blue Lakes (EHM)

12 Jul 1970 near Evans Peak, approx. 4000', "evidently young out of the nest" (EHM)

9-11 Jun 1973 Crockett Peak, 3900-4700', 5 birds including pair collected at nest (MVZ 162461-162466, NKJ)

1 Jul 1973 Lake Pillsbury (Remsen and Gaines 1973)

#### *Mendocino County*

20 Jul 1950 Bald Mtn. 2 mi SE, Sand Creek, imm. (MVZ 149677, DVH)

13 Jun 1951 Hull Mtn. Lookout, 1 mi NW, 6400', ad. (MVZ 149676, DVH)

19 Jul 1951 Etsel Ridge, Port Camp, 5600', ad. (MVZ 149678, DVH)

28 Apr 1974 P. M. Dimmick Wayside Camp, Navarro River, 3 birds (OJK)

2 May 1974 N. Fork Gualala River, 2 mi NE of the town of Gualala (OJK)

6 Jun 1980 near mouth of Gualala River, one bird seen entering a hole (BDP)

23 Jun 1975 3 mi W of Boonville, adult feeding young in nest (OJK)

23 & 24 Jun 1975 north side of Cold Springs Lookout, 7 mi W of Boonville, adult feeding young in nest (OJK)

8 Oct 1977 near town of Mendocino, ad. feeding fledgling (Erickson and Morlan 1978)

9 Jun 1980 Low Gap Rd., 8 mi W of Ukiah (OJK)

13 Jun 1981 Gualala River, about 2 mi inland, pair with young (LeValley and Evens 1981, erroneously reported as Sonoma Co.)

#### *Sonoma County*

20 Jul 1972 "near" Bodega Bay (DeSante and Remsen 1972)

"July" 1977 Gualala Point County Park, adults feeding young in nest hole (TB fide BDP); 6 Jun 1980 (BDP)

5 May 1978 Sea Ranch just S of Gualala R., two pairs in courtship and territorial display (BDP)

Cluster of sightings from the turnoff onto Annapolis Rd. from Highway 1 at Sea Ranch east to the vicinity of the town of Annapolis: 6 Jun 1976 (BDP); 30 Jun 1976, pair (JRA); 11 Jul & 13 Aug 1976 (JRA); 12 Jul 1977, "carrying food to young" (JRA); 20 May 1978, 2 birds calling (BDP); 3 Jun 1979 (BDP); 8 Jun 1980 (BDP); 11 Jun 1981, nest with young (JRA); 5 & 6 Jun 1982, 2 pairs, one bird excavating a hole



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(BDP, DE); 26 Jun 1982, one pair (KVV, KC, JP); 26 & 27 May 1984 (BDP); 8 Jun 1985, pair in and out of hole in alder (BDP); 8 Jun 1986, 3 birds at two sites (BDP)

### *Marin County*

27 Apr 1977 Olema, two birds (RMS)

22 Jun 1980 near Bear Valley Hdqtrs., Point Reyes Natl. Seashore (P.R.N.S.), pair carrying food to nest hole; young destroyed by Acorn Woodpeckers (Laymon and Shuford 1980, Shuford 1985)

9 May 1982 Inverness Park (Evens and LeValley 1982)

23 May 1982 Papermill Creek, Pt. Reyes Station (BG: Evens and LeValley 1982)

18 Oct 1982 Five Brooks, P.R.N.S., adult feeding full-sized fledgling (EH, MAS)

11 May 1983 Rift Trail, P.R.N.S. between Five Brooks and Bear Valley, adult drilling "nest hole" (MS, RH)

22 Apr 1985 Inverness "investigating hole in alder" (RS)

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Red-breasted Sapsucker

*Sketch by Tim Manolis*