NOTES

LOW-ELEVATION NESTING BY CALLIOPE HUMMINGBIRDS IN THE WESTERN SIERRA NEVADA FOOTHILLS

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The Calliope Hummingbird breeds uncommonly to fairly commonly in the Sierra Nevada and other high mountain ranges in California. In the Sierra it typically nests above 4000 feet elevation (Grinnell and Miller 1944, Gaines 1992, pers. obs.), usually near moist meadows or other relatively level and wet sites with a mixture of deciduous and coniferous trees, shrubs, and flowering plants (Grinnell and Miller 1944, Verner et al. 1980, Gaines 1992, pers. obs.). Although it can be locally fairly common as a migrant in the more arid lowlands during spring migration (pers. obs.), it generally avoids dense forests, dry ridges, or other relatively exposed and hot sites for breeding. Consequently, I was quite surprised to find a Calliope Hummingbird raising young in relatively arid Blue Oak (*Quercus douglasii*) woodland well below 1000 feet elevation.

On 6 June 1993, I found a female Calliope Hummingbird feeding a dependent fledgling in a California Buckeye (*Aesculus californica*) near Granite Bay in Folsom Lake State Park, Placer County, elevation 420 feet, at the western edge of the Sierra Nevada foothills. Both birds were clearly smaller than Anna's Hummingbird (*Calypte anna*), a common resident in the area, and they were also smaller but chunkier than the slender-necked Black-chinned Hummingbird (*Archilochus alexandri*), also fairly common there. Both Calliopes had buffy flanks with faint buffy breast bands (see Kaufmann 1990). They both had a pattern of symmetrical columns of dark throat spots, not concentrated in the center of the throat and lacking apparent iridescence. The female Calliope's primaries extended just slightly beyond her short tail, and the four central retrices lacked white tips. I distinguished the juvenile mostly by behavior as it made only short uncoordinated flights of no more than a few feet and often had difficulty perching, though its plumage also seemed buffier plumage than the adult female's (Baltosser 1994). The juvenile usually remained stationary in the buckeye until the female returned to feed it, inserting her bill into its gape. To make sure of the identification and to document this rare event, I called Bill Grenfell, a local wildlife photographer, who took a few photographs on the afternoon of 6 June (Figure 1). The birds were quite approachable, and we were able to stand closer than 12 feet without flushing either of them. They also appeared to ignore other birds in the area, except for a Black-chinned Hummingbird (unknown sex) that was chased from the area by the female Calliope on my single return visit about 10:00 on 7 June. On that visit I returned to the same tree and immediately found the juvenile still perched there; presumably the nest was nearby. The female was still making repeated foraging trips and returned regularly to feed the juvenile.

The Calliope Hummingbird is a regular spring migrant at Folsom Lake State Park, and two to five adult males can usually be found daily in the Granite Bay–Beek's Bight area from mid-April to early May. They concentrate in an area of mixed oak woodland and patchy Chamise (*Adenostoma fasciculatum*) chaparral where sticky monkey-flowers (*Mimulus aurantiacus*) and buckeyes are numerous and Indian paintbrush (*Castilleja* sp.), yerba santa (*Eriodictyon californicum*), and other flowering plants are scattered about in the chaparral. This female and her fledgling, however, were about 0.5 mile southwest of that area within a woodland dominated by the Blue Oak and situated on a gentle north-facing slope with a sparse understory of Poison Oak

Figure 1. Female Calliope Hummingbird feeding fledgling in California Buckeye, Folsom Lake State Park, 6 June 1993.

Photo by Bill Grenfell

(*Toxicodendron diversilobum*) and flowering California buckeye. The woodland's canopy closure is approximately 80% (visually estimated), though the Blue Oak canopy is generally high, not very dense, and admits plenty of filtered light for a ground cover of mostly nonnative grasses and forbs. Otherwise there are no nearby concentrations of typical hummingbird-pollinated plants within at least 100 m. The site is also at the edge of an almost level drainage that stays moist relatively late into the spring and probably still contained some open water at the time of nest initiation. The north aspect, high canopy cover, relatively mesic conditions, and position at the bottom of a local basin (into which cooler air collects) likely give this spot one of the coolest microclimates within roughly a half-mile radius. The Calliope Hummingbird generally prefers cool microhabitats (Calder and Calder 1994). Gaines (1992), however, reported the species using arid ridges in Yosemite, and in 1978 Ted Beedy (pers. comm.) found two nests in junipers on a dry slope about 2 miles south of Highway 20 and >100 m from Yosemite Creek (>6000 feet elevation).

Surprisingly, I later learned of a previous breeding attempt by a Calliope Hummingbird about 0.5 mile from the site described above. On 20 April 1985 Tim Fitzer, Jack Wilburn, and Dan Brown saw a female Calliope fly from a nest. Excited by their discovery, Wilburn and Brown returned two days later to photograph the nesting Calliope (Figure 2). On a later visit Wilburn did not see the female and assumed the nest was abandoned. It is not known whether the bird laid any eggs or fledged young. The date of probable nest initiation in 1985 was very near that in 1993. If the juvenile fledged on 6 June 1993 (the last possible date) and incubation (15-16 days) and fledging (18-21 days) took 33-37 days (Calder and Calder 1994), the last possible dates for egg laying were 1–5 May.

The only other probable or possible extralimital nesting records I was able to locate

Figure 2. Calliope Hummingbird on nest at Beek's Bight, Folsom Lake State Park, 22 April 1985.

Photo by Dan Brown

were by San Miguel (1985) and in the editors' files for the Middle Pacific Coast region of *American Birds* and its various successors (1955-1991; 1997-1998). I subsequently confirmed all of these records with the observers. Bob Yutzy found one at Lake Shasta, Shasta Co., on 21 June 1980. Richard A. Erickson found a pair copulating at 2000 feet elevation 1 mile north of Hyampom, Trinity Co., 16 June 1983 (LeValley and Evens 1983, Harris 1991). Jeri M. Langham found a male along French Hill Road about 1000 feet elevation near Shingle Springs, El Dorado Co., 8 June 1985. David G. Yee found a female apparently on territory at 2000 feet elevaton near Mokelumne Hill, Calaveras Co., 1 June 1985. Yutzy reported a pair visiting a feeder at 1300 feet elevation west of Redding in mid-July 1985, and a female at a feeder in Redding 11 June 1987; he also saw a female on a nest at about 2000 feet elevation along Gilman Road northeast of Lake Shasta on 31 May 1997 and has seen the species a few other times in late May sightings at his feeders near Shasta (>1000 feet) west of Redding (pers. comm.). Even though the various observers considered these records either out of range or at the margins of the species' range, all of these localities are in or near coniferous forest (Ponderosa Pine, *Pinus ponderosa*, or Douglas Fir, *Pseudotsuga menziesii*; the Gilman Road nest was in a Douglas Fir), nesting habitat more typical Blue Oak woodland.

Records accumulated over the years suggest the American River may serve as a migratory corridor, hummingbirds roughly following the progression of blooming flowers to more typical nest sites at higher elevations (mostly above 5000 feet in this part of the Sierra). This phenomenon was hypothesized by San Miguel (1985) for the Kaweah River of the southern Sierra and may be a common strategy of migrating hummingbirds. Possibly the nestings at Folsom Lake were responses to locally favorable food supplies (e.g., Sealy 1979) and/or suitable microclimate and nesting sites (e.g., Walley 1977, Roberson 1993), but the role of premature reproductive

development (in this and other extralimital nesting species) is unknown. Either way, I urge other observers to watch for signs of nesting Calliope Hummingbirds at other favorable sites outside of the recognized breeding range, especially in the Sierra Nevada foothills where other montane birds may nest locally well outside of their known range. Such nesting also raises the possibility of multiple broods (see also the hint by Calder and Calder 1994), as it seems possible for a Calliope Hummingbird nesting at a low elevation early to nest at a higher elevation later in the year, in June and July as is typical for the species (Orr and Moffitt 1971).

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LITERATURE CITED

Baltosser, W. H. 1994. Age and sex determination in the Calliope Hummingbird. W. Birds 25:104-109.

Calder, W. A., and Calder, L. L. 1994. Calliope Hummingbird (*Stellula calliope*), in The Birds of North America (A. Poole and F. Gill, eds.), no. 135. Acad. Nat. Sci., Philadelphia.

Gaines, David. 1992. Birds of Yosemite and the East Slope. Artemisia Press, Lee Vining, CA.

Grinnell, J., and Miller, A. H. 1944. Distribution of the birds of California. Pac. Coast Avifauna 27.

Harris, S. W. 1991. Northwestern California Birds. Humboldt State Univ. Press, Arcata, CA.

Kaufmann, K. 1990. Advanced Birding. Houghton Mifflin, Boston.

LeValley, R., and Evens, J. 1983. Middle Pacific Coast region. Am. Birds 37:1022-1026.

Orr, R. T.. and Moffitt, J. 1971. Birds of the Lake Tahoe Region. Calif. Acad. Sci., San Francisco.

Roberson, D. 1993. Northern Parula, in Atlas of the Breeding Birds of Monterey County (D. Roberson and C. Tenney, eds.), p. 402. Monterey Peninsula Audubon Soc., Carmel, CA.

San Miguel, G. L. 1985. Lower elevation breeding in the Sierra foothills. W. Tanager 52 (3):1–4.

Sealy, S. G. 1979. Extralimital nesting of Bay-breasted Warblers: Response to forest tent caterpillars? Auk 96:600–603.

Verner, J., Beedy, E. C., Granholm, S. L., Ritter, L. V., and Toth, E. F. 1980. Birds, in California wildlife and their habitats: Western Sierra Nevada (J. Verner and A. S. Boss, tech. coords.), pp. 75-319 . Gen. Tech. Rep. PSW-37. USDA Forest Service, Pacific Southwest Forest and Range Experiment Station, Berkeley, CA.

Walley, W. J. 1977. An extra-limital nesting of the Wood Thrush in Manitoba. Blue Jay 35:82–86.

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