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CALIFORNIA GNATCATCHER FEEDS BEWICK'S WREN NESTLINGS IN AN ABANDONED RODENT BURROW

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On 14 and 15 April 2004 I documented an adult male California Gnatcatcher (*Polioptila californica*) repeatedly feeding the nestlings of a pair of Bewick's Wrens (*Thryomanes bewickii*) that had built a nest inside the remnant of a rodent burrow in western Riverside County, California.

Among the many published accounts of interspecific feeding of young in birds (e.g., Skutch 1960, 1961, 1987; Shy 1982; Welty and Baptista 1988), only one involves a gnatcatcher feeding the young of a species other than the parasitic Brown-headed Cowbird (*Molothrus ater*): Erickson (1998) described a male California Gnatcatcher feeding fledgling Bush tits (*Psaltriparus minimus*). True cooperative breeding has not been reported for the California Gnatcatcher (Atwood and Bontrager 2001). An adult male thought to have recently lost its mate "helped" a gnatcatcher pair feed their single fledgling, then later displaced both members of the pair from the territory (Atwood and Bontrager 2001). The gnatcatcher nests in low shrubs, whereas Bewick's Wren is a cavity nester. Both species are typically intolerant of birds of any other species approaching their nests, and there are no published references of a gnatcatcher repeatedly entering the nest of another species, much less an underground cavity nest.

The nest site was east of the city of Perris and south of the Bernasconi Hills, on a rocky ridge covered by sage scrub and surrounded by agricultural fields and rural development. The nest burrow was located at the base of a California Buckwheat shrub (*Eriogonum fasciculatum*) on a northeast-facing slope. Vegetation surrounding the nest was dominated by California Sagebrush (*Artemisia californica*), with other shrub species such as Yellow Bush Penstemon (*Keckiella antirrhinoides* ssp. *antirrhinoides*), California Buckwheat, and White Sage (*Salvia apiana*) occurring at a lower density. The understory consisted primarily of sparse non-native grasses, including Red Brome (*Bromus madritensis* ssp. *rubens*) and Ripgut Brome (*B. diandrus*).

From 16 March to 27 April 2004 I made weekly surveys of this area to determine the presence or absence of the California Gnatcatcher. The male gnatcatcher behaved normally during my initial visits; although I found no female or nest, the male behaved as if a nest existed. On 4 April 2004, the male was foraging in the company of a female; this was the only time I detected a female on the site, an island of habitat of roughly 400 acres. On 14 April, the male was feeding the Bewick's Wren nestlings, and I spent 16 hours on 14 and 15 April observing and photographing this unusual behavior. On the morning of 16 April, the burrow was empty. There was no evidence of disturbance or predation at the burrow entrance, so it is likely that the young fledged successfully. The male gnatcatcher remained in the area after the nestlings left the burrow but was no longer carrying prey. I resumed my focused gnatcatcher surveys across the site, noting the male once per week until the survey ended on 27 April 2004.

Although the prey items provided by the gnatcatcher were smaller than most prey brought by the wrens, the gnatcatcher brought in many more prey items than both of the adult wrens combined. The gnatcatcher foraged continuously for the nestlings while the nest was under observation, whereas the wrens foraged primarily in the early morning and late afternoon. The gnatcatcher never ceased foraging for the nestlings, even during mid-day, when the temperature was elevated. If a wren and the gnatcatcher arrived at the nest site at about the same time, the gnatcatcher was

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often the first adult bird to enter the hole; it would not wait for the wrens to feed the nestlings first. The gnatcatcher was less cautious about approaching and entering the hole than were the wrens. If one or both of the adult wrens were visible in shrubs adjacent to the burrow, the gnatcatcher made one or two barely audible mews during the final few meters of approach to the nest. If no wrens were near the nest, the gnatcatcher was silent during its approach.

The wrens often perched in shrubs near the nest and watched the gnatcatcher feed the nestlings without protest. The wrens occasionally scolded and attempted to chase the gnatcatcher, but the gnatcatcher would not be dissuaded. If a wren attempted to chase off the gnatcatcher as it approached the nest, the gnatcatcher occasionally hopped away from the nest through vegetation for a couple of meters with the wren hopping in pursuit, then darted back to the hole, entered, and fed the nestlings while the wren was out of position. The gnatcatcher never attacked the wrens and acted in a submissive way towards the adults; however, none of the adult wrens' actions interrupted the activity of the gnatcatcher around the burrow for more than a few seconds.

The gnatcatcher routinely walked and hopped on the ground outside the burrow entrance and scratched at the ground with its feet, behaviors rarely observed in this species. Atwood and Bontrager (2001) wrote that the California Gnatcatcher is "not observed to walk, hop, or climb; rarely descends to the ground." They referred to M. R. Fugagli observing a California Gnatcatcher "fly-catching from shrubs and ground at emerging swarms of subterranean termites" as an instance of a gnatcatcher descending to the ground. This observation is similar to an instance where I observed a gnatcatcher standing on the ground and picking up subterranean termites individually as they emerged from the ground.

The gnatcatcher removed the nestlings' fecal sacs from the burrow on several occasions, each time flying straight away from the burrow with the sac. The wrens were more secretive when performing this duty, hopping away from the nest before flying off.

The gnatcatcher had to enter the hole to a depth of 18 cm to reach the edge of the nest and feed the nestlings. The gnatcatcher's head was in darkness in the hole's interior, and the bird had to back out and turn around in order to exit the hole. The vulnerability of this position became evident when, in one instance, a wren flew down, reached into the hole, and dragged the protesting gnatcatcher out by its leg. The gnatcatcher flew off and returned approximately one minute later with more prey for the nestlings. In another instance, as the gnatcatcher was exiting the hole, a wren shouldered the gnatcatcher out of the way as it entered.

A few days after the nestling wrens had apparently fledged, the male gnatcatcher built a nest in a California Buckwheat shrub 122 meters up the slope from the Bewick's Wren nest. The bird used new nesting material collected from surrounding shrubs and did not collect material from a previous gnatcatcher nest. As I have often observed this species to use material from a recently failed nest to build a new nest in a new location, an observation of the male collecting new nesting material suggests that there was no recent failed nesting attempt. During nest construction, the male gnatcatcher alternated between nest building and flying about the territory calling, presumably to attract a mate.

It appeared that the male may have been paired, lost its mate, and redirected nesting activities toward raising the nestling wrens. After the nestling wrens fledged, the male gnatcatcher resumed a semblance of normal nesting activity, albeit in the absence of a female.

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LITERATURE CITED

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Figure 1. California Gnatcatcher bringing insects to a Bewick's Wren nest near Perris, Riverside County, California, April 2004.

Photo by Michael C. Couffer

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