

## BAJA CALIFORNIA SPECIMENS OF *PARUS GAMBELI BAILEYAE*

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Grinnell and Swarth (1926) described a Baja California subspecies of the Mountain Chickadee as *Penthestes* (now *Parus*) *gambeli atratus*, separating it from *P. g. baileyae* of southern California on the basis of longer tail, darker general coloration, and restriction of the white supercilium. The range as then known was confined to the Sierra San Pedro Mártir, at altitudes from 6000 to 8500 feet. Later Grinnell (1928) added the more northerly Sierra Juárez to the range of *atratus*, citing localities at 4200 and 5200 feet. He reported that "some individuals seek somewhat lower levels adjacent in winter," and listed November and December specimens from El Valle de Trinidad, 2500 feet; this locality is "the valley leading westward from the pass which separates the Sierra Juárez from the Sierra San Pedro Mártir, about lat. 31°20'." He also quoted Anthony (1893), who stated of the Mountain Chickadee that "in winter it was seen about Valladares and along the lower valleys." Valladares is at the west base of the Sierra San Pedro Mártir at 30°54' N, 115°41' W, elevation (*vide* Grinnell 1928) 2700 feet.

Grinnell and subsequent authors mentioning lowland Baja California records (Miller et al. 1957, Wilbur 1987) have assumed that these refer to birds moving downslope from the breeding elevations of *P. g. atratus*.

Although Anthony may have seen numbers of Mountain Chickadees at Valladares and other lowland localities, he collected only one specimen. This is Carnegie Museum of Natural History (CM) 17357, a male taken at Valladares on 6 December 1888. Most unexpectedly, it proves to be a specimen of the southern California subspecies, *P. g. baileyae*. Although this mountain race is known to winter at least casually to the Pacific coastal lowlands (Unitt 1984; one specimen from Point Loma, San Diego County, 25 September 1965, San Diego Natural History Museum [SD] 35520), and one specimen has been taken in the irrigated area of inland desert (4.5 miles northwest of Imperial, Imperial County, 16 December 1990, SD 47587), it has never been attributed to Baja California. Having made this discovery, we borrowed from the Museum of Vertebrate Zoology, Berkeley (MVZ), the lowland Baja California specimens mentioned by Grinnell (1928) on the chance that these, too, might be referable to *baileyae* rather than to *atratus*. They were collected at El Valle de Trinidad on 27 November, 14 December, and 17 December 1926 (MVZ 50362, 50363, and 50364).

The Carnegie Museum collection holds series of both *baileyae* and *atratus*; to attain a better balance of representation of the sexes, additional female specimens of *atratus* were borrowed from the San Diego Natural History Museum. These confirm the statement of Grinnell and Swarth (1926) that the color difference between the races "tends to be lost even when the feathers become only slightly worn." However, the darker, more leaden and less brownish dorsal color of *atratus* is still visible when these rather worn series are compared. Grinnell and Swarth's tail measurements for males showed no overlap: 8 *baileyae* 56.0–59.5 mm (mean 57.7); 6 *atratus* 60.0–62.5 mm (mean 61.2). The larger Carnegie plus San Diego series (*baileyae*, 19 ♂, 12 ♀; *atratus*, 14 ♂, 7 ♀), however, indicates that there is no significant difference between the subspecies in either sex in tail length, or, for that matter, in wing length (measurements on file at CM). Incidentally, Hellmayr (1934), although stating that *atratus* has a longer tail than *baileyae* and reproducing Grinnell and Swarth's measurements of 60–62.5 mm for *atratus*, inexplicably gave the tail measurements for *baileyae* as 63–67 mm!

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The only mensural characters in which we found slight differences between *baileyae* and *atratus* are the length and width of the bills of males. The bill measurements of the smaller series of females do not differ significantly. Bill length (in millimeters) was measured as the chord from the distal end of the nares to the tip of the bill, and width was measured at the distal end of the nares. Specimens collected in June, July, or August that were labeled as "immature" by the collector were excluded from the computations, but our figures indicate that "immature" specimens collected in September or later have fully grown bills.

The bills of male *baileyae* ( $N = 15$ ) are slightly but perceptibly longer and more slender than those of *atratus* ( $N=12$ ): bill length of *baileyae*,  $8.59 \pm 0.59$  mm; of *atratus*,  $8.32 \pm 0.20$ . Bill width of *baileyae*,  $3.68 \pm 0.22$ ; of *atratus*,  $3.85 \pm 0.14$  (all figures are means  $\pm$  standard deviations).

As for color, this is affected not only by seasonal wear, as emphasized by Grinnell and Swarth (1926), but also by museum age. Almost all of the specimens we examined were collected in the 1890s or the 1920s, plus four in 1956 or 1957 and one in 1990. These series made it evident that there is a progressive browning of the originally grayish colors of back and flanks; the difference between the 1990 specimen and those from the 1950s is slight but perceptible, but between the 1890s, 1920s, and more recent specimens it is obvious. We therefore attached subspecific significance only to comparisons made between specimens of similar museum age. We found that, as indicated in the original description of *atratus*, that race averages darker and more leaden, less buffy, on the back and flanks than *baileyae* of equal age.

The most immediately obvious character differentiating *baileyae* and *atratus* is the reduction of the white supercilium of the latter. It is always very narrow, and in most specimens it is discontinuous; in some extreme specimens it is reduced to no more than two or three white feathers. There is overlap, however, in this character as well. Some specimens of *baileyae* have a narrow supercilium, but it is virtually always continuous, with only a few exceptions. The full extent of variation in *baileyae* thus incorporates most of that in *atratus* except for the minimal (i.e., almost missing) development of the superciliary. In the reverse comparison, only four males among 19 breeding-season *atratus* of both sexes have unbroken superciliaries, and these are always narrow.

In all characters, CM 17357, the Valladares bird, is typical of *P. g. baileyae*. Because it is less worn than most of the other 1890s specimens, its colors are not strictly comparable, but it comes nearest to matching specimens of *baileyae*. The white supercilium is broad and unbroken. Its bill measurements are equivocal, at length 8.52 and width 3.98 mm matching specimens of both subspecies. Although the means for bill width of females are not statistically separable, MVZ 50362 has the narrowest bill (3.42 mm) of any specimen measured. In general color and in development of superciliary, this specimen, from El Valle de Trinidad, Baja California, is also clearly referable to *baileyae*. MVZ 50363 and 50364, also females, are nearest *baileyae* in back and flank color, although not as distinctly so as MVZ 50362. Both have narrow but unbroken superciliaries, and we believe they can safely be assigned to *baileyae* as well.

Unfortunately, weights were recorded for only five specimens among the series examined, but additional weights, especially for *atratus*, might demonstrate a difference between the subspecies. November and December specimens identified as *baileyae* weighed 8.2, 10.0, 10.2, and 10.5 grams; the only *atratus* weight available, of SD 32309 from Laguna Hansen, Sierra Juárez (5200 feet), November, was 14.0 gm.

Valle de Trinidad and Valladares are approximately 175 and 230 km south-southeast, respectively, of the southernmost known breeding locality for *P. g. baileyae* in San Diego County, California (Unitt 1984). The specimens reported here are thus sufficient to indicate that winter wandering of Mountain Chickadees is more extensive

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than currently realized, and may serve to bring members of one subspecies within the winter range of another. There is a parallel case in southern Arizona, where the only lowland specimen of Mountain Chickadee is not of the local mountain subspecies *P. g. gambeli*, but of the pale subspecies *P. g. inyoensis* that breeds in northwestern Arizona (Phillips et al. 1964). It is thus apparent that specimens of supposed down-slope stragglers should be collected and critically examined; otherwise we will not be able to differentiate between local movements and unexpected long-distance migrations.

We should give credit to the late W. E. Clyde Todd for having correctly identified the Valladares specimen as *baileyae*, as shown by his unpublished notes in the files of the Carnegie Museum's Section of Birds; he did not, however, comment on its geographic significance.

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Mountain Chickadee

*Photo by Ian C. Tait*