pends entirely on the dimensions of the space between the bark and the main trunk of the tree. Sometimes only a scant handful is sufficient, while in one nest the twigs would have filled a quart measure to overflowing. Slender dead fir twigs, from four to eight inches long, are almost invariably used, and this must frequently be a most arduous piece of business. Twigs have to be thrust into the crevice until the first dozen or so lodge firmly, then the rest is easy. In every nest quite a little mound of twigs is found on the ground below, showing how persevering the little architects must have been in the face of repeated failure. Probably they consider such twigs as unsuitable; at any rate it never seems to occur to them to pick up a twig when once it has fallen. Scattered amongst this net-work of twigs is always a little green moss and a considerable amount of down taken from ferns, willows and cotton-woods. What purpose these serve, beyond ornamentation, must be known only to the birds themselves. On top, and firmly embedded, is the egg cup of the nest, which is composed of a thick felting of fine strips from the inner bark of the cedar, with occasionally a few feathers.

The eggs are laid during the first week of May, and are usually five in number, rarely six. In color they are a dull white, plentifully sprinkled with dots of red-brown, most heavily about the larger end. The two sets that I have been fortunate enough to take are a well rounded ovate in shape. In another nest, that was torn down while I was waiting for the bird to complete her set, the broken eggs showed a decided approach to long ovate. My two sets show practically no variation in either size or shape, averaging .47x.58 inches.

In spite of the early nesting date it is very much open to doubt if more than one brood is reared in a season. Most of my spare time during the past summer was devoted to studying these birds, yet no evidences of a second nesting could be found anywhere.

A curious fatality seems connected with the young of these birds. In the two nests containing young that I have watched, all the occupants died shortly before they were ready to fly. I could not discover any positive cause for this, but am inclined to attribute it to ants with which the trees were infested. In fact it has always seemed strange to me that more nestlings are not destroyed in this manner.

The birds are very shy in the vicinity of their home, excepting after the eggs are hatched. Even when I knew just where it was and posted myself at a considerable distance, the most patient watching has never enabled me to see a bird return to her treasures.

*Tacoma, Washington.*

## THE SOUTHERN CALIFORNIA CHICKADEE

By JOSEPH GRINNELL

### Parus gambeli baileyæ

SUBSPECIFIC CHARACTERS.—Similar to *Parus gambeli gambeli*, but coloration dorsally and laterally more plumbeous, less brownish, and bill larger.

TYPE.—♂ ad.; No. 5516 Coll. J. G.; Mount Wilson, 5500 feet altitude, Sierra San Gabriel, Los Angeles County, California; November 27, 1903; collected by J. Grinnell.

COLORATION OF TYPE.—Top of head and hind neck, including loral region, continuously black, save for a pure white superciliary stripe on each side; chin,

throat and fore chest also black; sides of head and neck, patch on chest bordering black area behind, and median abdominal region, dull white; whole back (including scapulars and rump) and sides, flanks, and crissum, pure smoke gray, without any of the buffy cast characterizing *Parus gambeli gambeli*; wings and tail mouse gray, edged with lighter.

MEASUREMENTS OF TYPE.—Length (of skin), 132 mm.; wing, 72.5; tail, 66; tarsus, 19; depth of bill, 4; culmen, 10.5.

DISTRIBUTION.—The mountains of southern California (breeding in the Transition and Boreal zones), and adjacent valleys in winter.

REMARKS.—The characterization of this new subspecies is based upon an examination of 95 skins of *Parus gambeli*. Thirty-six of these were loaned me by the United States National Museum, thru Dr. C. W. Richmond, Acting Curator, Division of Birds. The remaining 59 are from my own collection, and include 46 from southern California all of which are fairly referable to *Parus gambeli baileyæ*. Forty-seven skins from northern California, Oregon, Washington, and Rocky Mountain region from New Mexico and Arizona to Montana, are all *Parus gambeli gambeli*. One skin from Fort Tejon and others from Mount Whitney and further north in the Sierra Nevada are plainly *P. g. gambeli*. Two skins from Mount Pinos, Ventura County, are indeterminate, one being juvenal, and the other a worn adult.

The race *baileyæ* is larger and grayer than the northern and Rocky Mountain race *gambeli*. These characters are altogether constant in fully adult birds. An occasional *baileyæ* in first annual plumage has the sides not as clearly gray, being faintly overcast with brownish, and so is like *gambeli*. But the bulkier bill then serves as a criterion for recognition. I believe I would have no trouble in assorting even immatures of the two races.

I take pleasure in naming this well-marked new chickadee for Mrs. Vernon Bailey (Florence Merriam Bailey), whose accurate and pleasantly-written accounts of many of our birds form an important component of the ornithology of the west.

*Pasadena, California*

## NOTES FROM THE DIARY OF A NATURALIST IN NORTHERN CALIFORNIA [a]

By JOHN F. FERRY

THE following notes were made while carrying on field-work in northern California for the U. S. Biological Survey, under the direction of C. Hart Merriam, during the summer and autumn of 1905. The writer was associated from July 21 to August 9 with Mr. A. Sterling Bunnell, then a medical student in the University of California, and from September 18 to November 3 with James H. Gaut, at that time a regular employee of the Survey and a field-worker of much experience.

a Author's Note:

This article is written from notes as they were jotted down in a field diary, and at the time served merely as memoranda from which extensive reports were sent in from each locality visited. No effort was made to identify material in the field, as such material, including mammals, birds and plants, was sent in with field data only. Hence the article must lack in completeness and thoroness, but still a conscientious effort has been made to keep out of error and to make positive assertions only when they are justified. Credit is given to others whenever possible.

Altitudes were taken by two aneroid barometers. I am indebted to the Biological Survey for a number of edentifications as noted in the text.