

contempt for the cleanliness of the deck and consequently the disgusted boatswain's mate 'gave it the air.' It fluttered or glided a hundred feet and alighted easily on the water where it remained as the ship steamed away."—ALBERT M. INGERSOLL, *San Diego Society of Natural History, San Diego, California, March 30, 1934.*

The Little Blue Heron in California.—During the winter of 1931 I saw at Point Mugu in Ventura County a small white heron which, I was satisfied, had greenish legs instead of black. Contact with Little Blue Herons (*Florida caerulea*) in El Salvador and coastal Mexico made me at once suspect this bird of being a young specimen of that species. A similar bird was observed by my colleague, Dr. R. B. Cowles, during the following winter. He was also satisfied that the color of the legs was greenish yellow. On January 2 of the current year, I saw such a specimen with greenish legs and dark areas upon the dorsal surface. The distance was such that the field glass could not map out the darker areas nor distinguish them from adventitious stains, though white herons are seldom soiled in any way.

On February 1, two of these birds were watched for nearly an hour at a distance of forty yards. There were no dark areas on the dorsum, but the legs were greenish yellow without a shadow of doubt, and the beaks yellow at the base. Young specimens of *Florida* may be immaculately white in plumage, there may be diffuse pigment, or there may later appear entirely blue feathers in sharp contrast to the white. In the series of *Florida* at the Los Angeles Museum, all three types are represented. The birds observed on February 1 were perfect representatives of the pure white phase. The species occurs regularly on the west coast of Lower California, and I feel confident that it commonly drifts northward to our own southern coast marshes where it has been assigned by many observers to the category of Snowy Egret (*Egretta thula*).—LOYE MILLER, *University of California at Los Angeles, February 17, 1934.*

Spring Notes from Mount Pinos, Kern County, California.—Having noted the scarcity of published definite dates of arrival or departure of some common southern Californian birds, the writer submits the following from the Kern County side of Mount Pinos.

Ixoreus naevius meruloides. Northern Varied Thrush. Common through March and early April from 6000 to 7000 feet altitude. Five or six birds seen (one collected) by Ora A. Willett April 15.

Passerella iliaca stephensi. Stephens Fox Sparrow. Fairly common in ceanothus patches at about 7000 feet altitude by April 8. Specimens collected April 14.

Psaltriparus minimus minimus. Coast Bush-tit. Adult male collected by Ora A. Willett on brushy mountain side at 7000 feet altitude April 15, 1934. An unusually high altitude for spring.—G. WILLETT, *Los Angeles Museum, Los Angeles, California, April 27, 1934.*

Nuttall Poor-will on the Oregon Coast.—On October 27, 1933, a small boy shot a poor-will at a beach resort near the mouth of the bay at Netarts, Tillamook County, Oregon. It was nearly a week later that the bird came into my hands through the kindness of Mr. Clarence Edner of Netarts, and though by that time in very poor condition it was nevertheless preserved as a study skin (field number 9337). It proved to be a young female. Dr. Joseph Grinnell identified the specimen as *Phalaenoptilus nuttallii nuttallii*,—"in other words the race of the Great Basin and Rocky Mountain region," and he further remarks "it is thus hard to imagine how so young a bird (outer primaries not yet fully emerged) could have gotten so far from the breeding ground of that race—unless its parents had themselves been pioneers far to the westward across the Cascades." So far as I know, the poor-will has not previously been noted in this part of the state.—ALEX. WALKER, *Tillamook, Oregon, March 25, 1934.*

Goose Footprints on a Pliocene Mud-flat.—Upon a ripple marked mud-flat a goose of ancient times left record of its ramblings. Soon the impressions of its feet were buried and later cast in the forming shale and sandstone. Today the old mud-flat, that once was part of river delta or lake shore, stands at a steep angle in a road cut at Saint Mary's College, Moraga Valley, Contra Costa County, California. Spread

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FROM FIELD AND STUDY

across part of this rock surface the goose tracks were clearly visible when the layer of rock was first exposed. Mr. Hugo Goeriz and one of the present writers (Ashley) found and inspected them in November of 1933. The two of us were later able to remove successfully two of the tracks and take measurements upon the cliff of two others (fig. 29). At the time of discovery there were about ten recognizable impres-



Fig. 29. Right footprint of a goose, from Pliocene formation, Moraga Valley, California. About $\frac{2}{5}$ natural size. Heel is toward the bottom.

sions. Most of the footprints left upon the cliff have by now weathered away. The slabs containing the two tracks that were removed are in the collection of the Museum of Paleontology of the University of California.

Mr. R. A. Stirton of the Museum of Paleontology has kindly furnished information regarding the exposure. He says the formation is Lower Pliocene, probably Orindan or Siestan. Its more precise location is in township 1 south, range 2 west; SW $\frac{1}{4}$ of NE $\frac{1}{4}$ of section 17; east side of Las Trampas Creek. Numerous undetermined fish remains have been taken from the beds.

It is of course impossible to identify the tracks even to the genus. That they were made by geese, however, seems certain. Proportions of toe, claw, heel pad and web impressions all check closely with the feet of modern geese of the genera *Branta*, *Chen* and *Anser*. The middle (third) toe impression, measured from the heel pad to the base of the claw, varied from 85 to 90 mm. Average toe lengths of the three best specimens were: middle toe, 89.3 mm.; inner toe, 73.0; outer toe, 80.3. Comparable measurements of feet of the Tule White-fronted Goose (*Anser albifrons gambeli*) are: 88.4, 73.0 and 81.5. In a study of the hind limb of geese being carried on by one of us (Miller) no differences in proportionate length of toes have been found that are large enough to be useful in this connection. The fact that we have matched the size of the tracks with the feet of White-fronted Geese does not indicate that the impressions could not have been made by Canada or Snow geese of comparable size.

Pliocene records of geese in North America number five, exclusive of this record; all are from the western United States. Four have been named as extinct species. Of these, *Branta howardae* and *Branta esmeralda* are the only ones of size comparable to the bird that made the tracks at Moraga. The paucity of North American Pliocene bird fossils is such that the six records of geese from this period constitute a fairly impressive representation.—ALDEN H. MILLER and JAMES F. ASHLEY, *Museum of Vertebrate Zoology, Berkeley, California, April 20, 1934.*