

me the bird was incubating four eggs. While not doubting my informant I "had to be shown". When there was a little lull in the work he raised the dipper up near the hole and then climbed out on it and just as soon as he placed his face near the entrance the bird flushed. He climbed down and started the machinery and the bird returned. The nest contained four young birds on June 7.

The usual loading operation was under way on June 17 and the bird was busy bringing food to the hungry brood. After one trip the shovel started to back away from the clay bank and there was a big slide of hundreds of tons of clay to the place where the shovel had just been standing. The bird came on the changed scene with

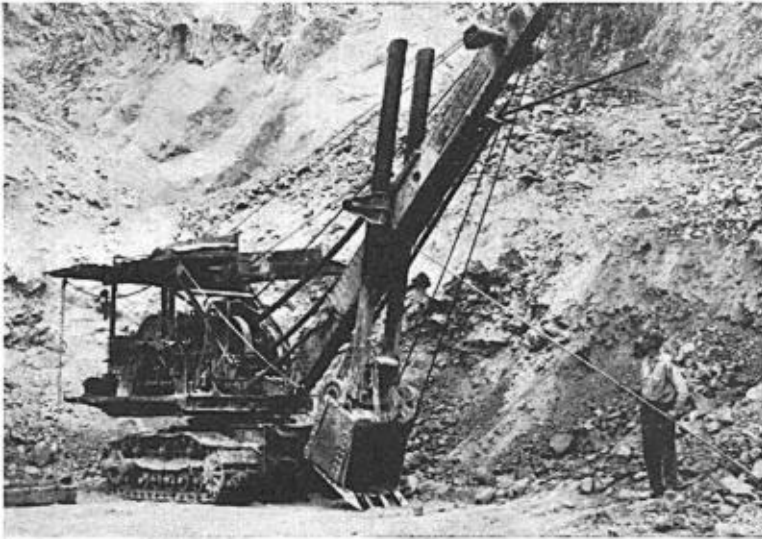


Fig. 52. NESTING SITE OF ASH-THROATED FLYCATCHER; ARROW POINTS TO PLACE UNDER BOOM WHERE THE BIRDS ENTERED; LOCATION OF 1930 NEST NEAR END OF STICK IN MR. MATHEWS' HANDS; 1931 NEST WAS ABOUT A FOOT BELOW POINT OF ARROW.

food and landed on the dipper of the shovel and then into the nest where it remained while the shovel moved seventy feet. Out it flew again and when it returned to the nest a few minutes later the shovel had moved 180 feet to a new site where it had not been for at least a month.

Both birds were making frequent trips to the nest with food on June 25, and the four healthy young ones in the moving home were calling for food and more food at the tops of their voices which could often be heard even above the noise of the machinery. Without some unforeseen accident, yet to take place, the birds seem to have chosen a good site.

I termed the selection in 1930 as an accident, but in 1931 it must have been a matter of choice.—WILSON C. HANNA, *Colton, California, June 26, 1931.*

On the Breeding of *Puffinus chlororhynchus* in the Tonga Group.—Through the efforts of Mr. Edward Winslow Gifford, Curator of the Museum of Anthropology, University of California, it has become possible to add another nesting station to the known breeding range of *Puffinus chlororhynchus*¹. Specimens of this species were secured on Kelelesia Island, Nomuka Group, Tonga Islands, on January 6, 1921. Of the collecting of these examples Mr. Gifford wrote: "The birds were obtained for me by natives. . . . They report the birds nesting in burrows about a yard long, dug

¹ Cf. Loomis, *Emu*, XXIII, 1923-1924, pp. 283-284.

by the birds, not merely among rocks. There were eggs in the nests, but no young. The sexual organs of the five I am sending showed some enlargement, but not to the maximum size."

Birds of this species are already known to breed in the Indian Ocean in the Seychelle (Cousine and Aride') and Mascarene (Round and Réunion) islands; in western Australia (Dampier Archipelago, Slope, Rat, Rottnest, Abrolhos, Seal', and Carnac islands); in eastern Australia (Raine, Capricorn, South Solitary, North Coff's, Five, Brush, Broughton, Big Cabbage Tree, Big, Bird, Tollgates, and Montague islands); in the south Pacific (Lord Howe, Norfolk, Kermadec, Surprise', Vatom', McKean's, Willis, Vavita', Borabora', and Kandavu' islands); and in the north Pacific (Pescadores, Bonin, Sulphur, Marcus, ?Caroline, ?Krusenstern, Midway', and ?Fanning¹⁰ islands; the Hawaiian Archipelago: Kauai, Necker, and Laysan islands; Bird, French Frigate, and Lisiansky¹¹ islands; and San Benedicto, Revillagigedo Islands).

In many insular species, isolation tends to the development of island variations; and in the case of *Puffinus chlororhynchus* variations in both color and size appear. The light phase is dominant in Micronesia, the dark in the south Pacific and Indian oceans. White-breasted birds are common in the Hawaiian Islands, but they occur also in lesser numbers in the Revillagigedo Group and in the islands of the south Pacific and Indian oceans. Variations in size as well as in color have led to the recognition of many subspecies.

The specimens from Kelelesia Island (now in the collection of the B. P. Bishop Museum) are all in dark plumage. They yielded the following measurements:

		Wing	Tail	Culmen	Upper mandible Basal depth	Basal width	Tarsus	Middle toe and claw
2 males	Min	280.0	128.0	41.0	11.0	16.0	45.0	57.0
	Max.	298.0	143.0	41.5	11.0	16.0	48.0	62.0
	Av.	289.0	135.5	41.25	11.0	16.0	46.0	59.5
3 females	Min.	278.0	130.0	38.0	10.5	15.5	43.0	53.0
	Max.	296.0	139.0	41.0	10.5	17.0	48.0	59.0
	Av.	289.0	135.0	39.0	10.5	16.2	46.0	56.3

In average measurements as well as in relative proportions the Tongan birds differ from those breeding in the Hawaiian, Fijian, and Kermadec groups, and the application of a new subspecific name might be deemed justifiable. However, the range of variation exhibited in a large series of this shearwater from one breeding station makes it desirable that the characters of a new subspecies be derived from a more extensive series than the one under examination.—M. E. McLELLAN DAVIDSON, *California Academy of Sciences, San Francisco, California, May 20, 1931.*

New Records from the Channel Islands of Southern California.—During the past two years the writer and A. J. van Rossem have together and separately made many trips to the Channel Islands off the coast of southern California and the following records relating to the extension of known ranges of birds have been obtained, all of which are believed to be new.

Larus californicus; *Larus delawarensis*; *Puffinus opisthomelas*; *Podasocys montanus*; *Buteo borealis calurus*. On December 28, 1930, while at San Miguel Island van Rossem noted the above five birds new for that island. Both gulls were noted in small numbers and several Red-tails were seen. The Mountain Plover was present abundantly on the island, while the Black-vented Shearwater was likewise abundant off-shore.

² Oustalet, Bull. Soc. Phil. Paris, 1877-1878 (1878), p. 191.

³ Sandland, Emu, XXX, 1930-1931, p. 297.

⁴ Campbell and White, Emu, X, 1910-1911, p. 203.

⁵ Stresemann, Orn. Monats., XXXVI, 1928, p. 83 (Uvatom=Vatom).

⁶ Beck, Nat. Hist., XXIII, 1923, p. 33 (Ravaivai=Vavita').

⁷ Brigham, Occas. Pap. B. P. Bishop Mus., II, no. 2, 1904, p. 17.

⁸ Lowe, Bull. B. O. C., XLV, 1924-1925, p. 106.

⁹ Bartsch, Auk, XXXIX, 1922, p. 466.

¹⁰ Ogilvie-Grant, Bull. B. O. C., XXIX, 1911-1912, p. 102.

¹¹ Munter, An. Rept. U. S. Coast Guard, 1915, pp. 130-140.