

on the mountain. Both visible nests were promptly vacated when the first heavy smoke from the fire reached them, and apparently this was also true at the other nests; pigeons could be seen flying up above the low smoke cloud soon after it had penetrated sections of forest. Most of the pigeons headed for distant points after a brief circling above the smoke, but one member of the pair which occupied one of the visible nests (about 150 feet distant from the observer) was seen to return to the nest after about 15 minutes. This was after the first heavy smoke cloud had thinned out considerably. This pigeon was observed again about 30 minutes after it had returned to the nest. It was sitting quietly and was never seen to leave the nest again. In the dense smoke which enveloped the area later, it may have escaped, but so far as I could tell, it perished on the nest.

As the day progressed, the wind, blowing from the fire toward the lookout tower, carried a low, heavy layer of smoke over the area on which the tower was located. The observation cage itself was well above the thickest of the smoke, however, and I could still see for considerable distances. At about this time I began to notice birds moving just above the thick stratum of smoke. Frequently they were close to the tower and I could identify them as Purple Martins (*Progne subis*) and Violet-green Swallows (*Tachycineta thalassina*). The martins far outnumbered the swallows. I estimated as many as 15 martins near the tower at one time. There seemed to be no doubt as to their activities; they were actively feeding. Evidently numbers of strong-flying insects were being driven upward from the forest by the smoke, or weak-flying species were being carried up by the air currents, or both.

The martins and swallows could be seen diving without hesitation into the heaviest billows of smoke, returning to view in a moment, wheeling, skimming and diving in an active feeding manner. Even up to the time when the smoke had become so thick as to make further observations on the fire almost impossible, and the proximity of the blaze forced evacuation of the tower, the martins and swallows could occasionally be glimpsed, still feeding.

Purple Martins had been observed only once or twice during the previous weeks spent on the mountain; they evidently had been attracted from the desert below, where a colony of considerable size nests in the saguaros of the monument area. The martins and swallows were the only living creatures which seemed to profit by the catastrophe.—JOHN R. HENDRICKSON, *Museum of Vertebrate Zoology, Berkeley, California, November 22, 1948.*

Notes on Nest-building of the Vermilion Flycatcher.—A pair of Vermilion Flycatchers (*Pyrocephalus rubinus*) was completing its nest in a cottonwood under which I camped at the San Bernardino Ranch, near Tucson, Arizona, on July 6 and 7, 1947. When discovered the nest was almost completed so that during the heat of the day the female made trips to it only every hour or so. The nest was about 18 feet above ground and built where two small lateral twigs, about four inches apart, came off of one of the main branches of the tree some distance out from the trunk. During a great part of the midday the female perched on dead twigs under the canopy of large willows on the north side of a pond and her brilliantly colored mate did the same in neighboring willows. From these shaded retreats they flew out into the sunshine to catch insects buzzing by, often chasing them in wild gyrations over the pond before finally catching them. Upon having completed a successful mission they returned to one of their favorite perches but not always the same one from which they departed.

Apparently the male took no part in the nest-building activities although occasionally he was observed in the vicinity of the nest. After placing a bit of cobwebby material the female commenced shaping her nest by pushing with her feet and apparently with her abdomen. Her tail while in this position was either held erect or even tilted forward over her back; and her wings, directed upwards, also made a sort of flipping motion up over her back as if they were aiding her in her pushing efforts. Continuing in this fashion she worked counter-clockwise around the outer half of her nest, molding it. On every trip to the nest she worked several minutes from position to position, shaping and enlarging it. These efforts seemed to be directed against the outer part of the nest opposite the side built against the main supporting limb.

Most of the nest-building occurred in the early morning hours, and from my cot just below her I saw and heard her snap strands of spider silk in the central part of the big cottonwood. These she wove into the nest.

During noon of the second day, the male came to inspect the nest-building achievements of the female. He stood on the edge of the almost completed but shallow structure tilting his head from side

to side, and then he gently hopped into it. He tilted his head this way and that as he carefully made his survey. He sat perfectly still, not trying to enlarge the nest as the female had done on every visit. Finally after having remained in the nest for some minutes, he removed a bit of cobweb from the rim on the right side of the nest and carefully placed it on the rim of the nest to his left. Some moments later, he stepped out of the nest and flew back to his favorite perch under the big willow by the edge of the pond.—ERNEST R. TINKHAM, *Tucson, Arizona, May 27, 1948.*

Sixth Record of Gray-headed Junco on Pacific Slope of Southern California.—While Bruce E. Cardiff and I were at Stockton Flats, north fork of Lytle Creek Canyon, San Gabriel Mountains, California, on November 6, 1948, I collected a Gray-headed Junco (*Junco caniceps*). It was with a flock of Oregon Juncos at a dripping water faucet. It proved to be an adult female. The specimen is now no. 732 in the Cardiff collection.—EUGENE E. CARDIFF, *Bloomington, California, February 2, 1949.*

The Hawaiian Dark-rumped Petrel Reappears on Hawaii.—On November 8, 1948, a Hawaiian Dark-rumped Petrel (*Pterodroma phaeopygia sandwichensis*) was caught alive at the north rim of Kilauea caldera at about 4000 feet elevation on the island of Hawaii. The latest preceding record for the species from this island appears to be based on a single specimen in the Bernice P. Bishop Museum, Honolulu, dated 1900. Prior to this H. W. Henshaw (*Birds of the Hawaiian Islands, 1902: 119-120*) records a juvenal female that came ashore in exhausted condition on the Hilo beach on November 20, 1890. The petrel was collected in some numbers at nesting grounds in the mountains of Molokai in 1907, and two specimens in the Bishop Museum were taken on Lanai in 1926. It is feared that nesting has been prevented since the early 1900's on Hawaii and Molokai by the introduced and abundant mongooses. Obviously, however, the bird has been able to maintain itself somewhere in the archipelago, perhaps on Kauai, where there are no mongooses. Night calls and screams of avian origin and most likely attributable to the Hawaiian Petrel continue to be heard occasionally by residents

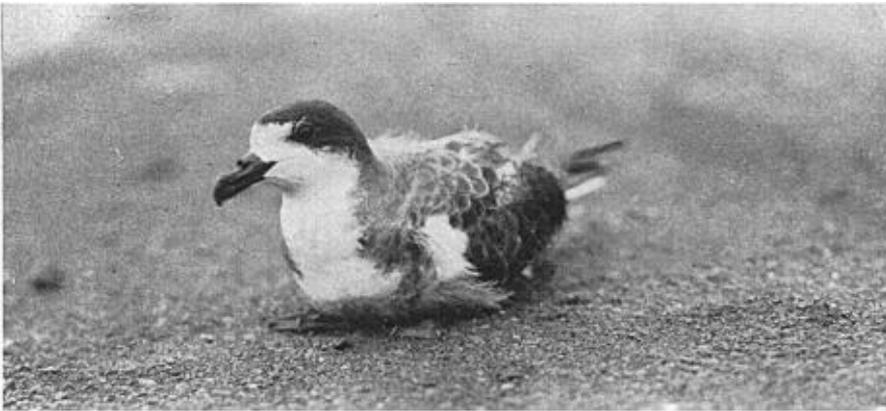


Fig. 43. Hawaiian Dark-rumped Petrel, Hawaii National Park.

of Hawaii. Two instances were reported to us: one in December, 1948, and one in March, 1949, both on stormy nights in the Volcano district at Kilauea. Such calls have been heard in the vicinity of Hilo within recent years, and Henshaw (*loc. cit.*) describes them as of common occurrence there in the 1890's. Nothing seems to be known of the present nesting and feeding areas of this species.

Since the bird is rare in collections and published measurements and descriptions are few, the following data are presented: sex male, testes 4.5 mm., length in flesh 409, wing expanse 992, wing 286, tail 143, exposed culmen 31, least depth of bill 10, greatest depth of bill 12.3, tarsus 36.5, middle toe and claw 44.4. Tarsi and proximal half of feet pinkish flesh color; distal five-eighths of web and toes black; entire dorsal portion of outer toe black. Iris dark yellowish-brown. Feathers at base of culmen pure white (they are mottled in *P. p. phaeopygia*; see Murphy, *Oceanic Birds South America, 1936:698*).

The measurements compare more closely with Bryan's (*Occas. Papers, B. P. Bishop Mus., 1908:*