

The only other known wintering birds on which I had a series of weights were four male Slate-colored Juncos (*Junco hyemalis*) and one immature male White-crowned Sparrow (*Zonotrichia leucophrys*). Six weights of the four juncos in November, 1931, averaged 19.5 grams; two weights of two of the birds in December averaged 20.2 grams; and seven weights of the four birds in March, 1932, averaged 21 grams. Three weights of the White-crown in January, 1936, averaged 35.4 grams, and two weights in February, 35.4 grams; on March 18 he weighed 32.3 grams and on April 21, 32.7.

Unfortunately I have few fall weights of known summer residents. A male, known by his singing to be a bird of the year in 1931, weighed 21 grams on October 1 of that year and was last seen on October 5; he returned between April 1 and 6, 1932, and weighed 24 grams on April 11; in 1933 he returned on March 13 and weighed 23.9 grams on April 12. Three females that returned to breed the following spring were weighed in the fall of 1931: one weighed 21.5 grams on September 10 and was not recaptured in 1932; the second weighed 23 grams while in molt on September 11, 21.4 grams on October 16, and 21.3 grams on her arrival on March 28, 1932; the third weighed 20 grams on September 12 and 20.1 grams on June 12, 1932, while feeding young. As to males that might have been summer residents or transients, 8 averaged 21.6 grams in September and 21 averaged 22.2 grams in October; these weights are about the same as those of the known resident males—9 averaged 22.4 grams in September, 10 averaged 22.2 grams in October. There appears to be no evidence in these birds of increased weight in connection with fall migration.

Wolfson in experiments in California found little gain in winter in resident birds, but marked gain in spring and fall just before migration in migratory birds. My experience in Ohio shows marked gain in winter in a resident population, and equal gain in February in a migratory population, but no evidence that weight increases up to migration. The two regions have very different winter climates.

Wolfson (p. 124) "cannot agree with the implications of the statement by Nice (1937) that a decided rise in temperature in late February will strongly stimulate some male Song Sparrows to migrate." Nevertheless, my table III and charts VI, VII and VIII clearly show a very close relationship between temperature and the migration of Song Sparrows in central Ohio. I did not consider temperature the only factor involved; I pointed out (p. 55) that: "High temperatures in December, January and early February have never brought a flight. Migration is dependent on both increasing daylight and rising temperature."—MARGARET M. NICE, *Chicago, Illinois, October 29, 1945.*

**Huge Migratory Flock of Purple Martins in Utah.**—About sundown, on August 11, 1945, when visiting the mouth of Provo River where it empties into Utah Lake, Utah County, Utah, an enormous flock of Purple Martins (*Progne subis*) was observed in feeding flight formation over the mouth of the river, the edge of the lake and the surrounding terrain. Birds were visible in every direction as far as the eye could distinguish them. No edge to the flock could be discerned.

Mosquitoes were common at this time and the individual birds were flying back and forth in every direction, wheeling and turning at random within the flock as would appear to be characteristic of birds chasing flying prey. This action continued without interruption from the time of first observation until nearly dusk, about one-half hour.

It was then noticed that instead of an approximately even distribution of birds in random flight, greater concentrations of birds appeared in some spots than at others. This did not appear to be due to chance because the aggregations tended to remain together more and more. Although it is true that some birds were continually leaving and others joining the concentrations, the groups tended to move with coordination of the members in great sweeps or curves.

Between dusk and dark, the northern edge of the flock came into view. Apparently the flock had been moving gradually to the south and west and by dark the last wheeling stragglers had passed by and were last seen to the southwest over the lake.

Attempts were made to estimate the numbers of birds observed, but the erratic movements in flight prevented any satisfactory computation. A final guess based upon mental impression of the enormous numbers of birds involved yielded a conservative figure of 25,000 individuals, but perhaps there were two or three times that number.

The Purple Martin is a sparse nester in the mountains of Utah. In all the years of the writer's field experience he has never before encountered the bird in Utah, although it has been seen elsewhere. This recent experience, however, suggests that the species is a regular migrant through Utah.—ANGUS M. WOODBURY, *University of Utah, Salt Lake City, Utah, October 25, 1945.*

**Bulwer Petrel Breeding on Eastern Hawaiian Islands.**—The Bulwer Petrel (*Bulweria bulwerii*) is reported by Peters (Check-list of Birds of the World, 1, 1931:68) as "Breeding on islands off the coast of China; the Bonin Islands, Vulcan Islands, the western Hawaiians [italics mine] and Marquesas Islands in the Pacific Ocean; Madeira, the Salvages, Canary and Cape Verde Islands in the Atlantic." This petrel also breeds on the eastern Hawaiian Islands on small islets off the shores of

Oahu, as recorded by G. C. Munro and others in numerous articles in volumes 1, 2, and 4 of *The Elepaio*. It is now known to breed on Keaoli Islet off the central southeastern shore of Hawaii, where the writer on August 9, 1945, found two Bulwer Petrels in rock clefts and two white eggs. One of the eggs was outside the entrance to a cleft, while the other was within a cleft near an adult petrel. One of the petrels extracted from its burrow was an adult; the other was not seen and could not be reached, but it made sounds resembling short barks exactly in the manner as the one examined. Both eggs were addled and dried. On August 14 another adult was found, dead; it had been pinned down by a shifting



Fig. 4. Keaoli Islet, off the shore of Hawaii National Park, Hawaii.

rock but a few days before. No downy young were seen. On subsequent days several more visits were made to the islet and no more petrels were seen or heard, hence the colony may have been discovered just before the birds last to leave were ready to depart for the ocean at the end of breeding activities.

A search over the entire  $2\frac{1}{2}$ -acre island revealed the presence of over 100 nests, then empty but recently occupied. If these were nests of departed Bulwer Petrels, the adult population would consist of more than 200 adults. No eggs or individuals of other species of petrels or shearwaters were seen.

The nests were located in chinks and clefts in the lava rock which comprised the island or in spaces under and between boulders. Nests were not on the surface, probably because there were no shrubs to afford protected sites. No burrows of any kind were dug in the small patches of shallow sand. Some of the nests were in narrow, almost closed-off chinks, while others were in open situations where wind and rain must have had free access. None was within reach of the spray drifting from normal-sized waves. They were most numerous in the cracks of a lava hummock at the central part of the islet which reached a height of 36 feet. No sticks, pebbles, or other movable materials were seen at the nests.

No rats or other mammals were present on the islet, although it was only 500 feet off the coast of the main island. This colony of birds has been undisturbed by man for many years.—PAUL H. BALDWIN, *United States National Park Service, Hawaii National Park, Hawaii, October 2, 1945.*

**Yellow-billed Magpies at Santa Barbara, California.**—This past summer Dr. Elmer R. Noble called my attention to the presence of two Yellow-billed Magpies (*Pica nuttallii*) around his home at 1250 Dover Lane in the Riviera section of Santa Barbara, California. This, according to Linsdale's "Natural History of Magpies" (Pacific Coast Avifauna No. 25), is the first record of them in Santa Barbara since 1887, although they have been reported by Bond at Goleta, six miles west of Santa Barbara, on July 3, 1941 (Condor, 43, 1941:247) and near Gaviota in the spring of 1935 and of 1937 (verbal).