

FROM FIELD AND STUDY

Flights of Shearwaters along the California Coast.—In the past summer large numbers of shearwaters have been seen along the coast south of San Francisco Bay. On June 12, 1937, from the new ocean shore road from Thornton to Edgemar, San Mateo County, Mrs. Parmenter and I saw at least 25000 shearwaters. Again, twelve days later, more than 1000 were seen off the San Francisco beach. In both instances the birds were moving northward.

On July 12, 1937, at 12:40 p.m., at the Cliff House, San Francisco, we sighted a line of shearwaters flying northward just seaward of buoys numbers 2 and 4 that mark the eastern side of the "south channel" to the entrance of the Golden Gate. The line was therefore between three-quarters of a mile and a mile off-shore. We did not see the end of the line to the north, however, so we do not know for how long the birds had been passing.

We decided we would head south and see how far we could see the line. We therefore followed the shore highway to Point Pedro, Shelter Cove, stopping at intervals to observe the shearwaters which were continuing north in a compact line, with numerous "rafts" where the birds were feeding. They were passing fairly close to the Point, and as we observed them with our 10x50 mm. and 8x40 mm. binoculars we had no doubt but that they were the Sooty Shearwater (*Puffinus griseus*).

Their manner of flying, with rapid wing-beats followed by soaring or sailing, and their stiff wings were remindful of the albatross. They continually changed the angle or inclination of their sailing plane, their wing tips nearly touching the water. This manner of soaring exposed the upper and lower parts alternately so that we had good conditions for observation. From Point Pedro as far south as we could see, the line of birds was continuous and north-bound.

We continued south on the highway over Montara Mountain and picked up the line of birds as soon as we were again near the shore. From there we could see that the birds extended north to Point Pedro, so if by chance the line had been broken, there could have been only a rather short interval.

We then proceeded south to Halfmoon Bay and as far as Martin's Beach, about eight miles beyond. We reached that point at 3:53 p.m., some 3 hours and 13 minutes after the birds were first sighted off the Cliff House. It is about 30 miles from the Cliff House to Martin's Beach in a direct line by sea.

Assuming that the progress of the birds was at least 25 miles per hour, they had covered at least 80 miles in the 3 hours and 13 minutes; and as we were 30 miles from our starting point, the line of shearwaters was about 110 miles long, no account being taken of the distances the line may have extended north of the Cliff House when we first sighted it or south of Martin's Beach when we left it.

A "raft" of birds a mile long by one-eighth wide would cover 3590400 square feet. Allowing 10 square feet to a bird, there would be at least 359000 birds in a raft of those dimensions. We observed many "rafts" of varying sizes, large and small. We believe that a conservative estimate of the number of birds seen by us was at least 750000.

Since July 12, we have seen the shearwaters in diminished numbers; some were flying south and some north; by August 11 there were just a few scattered birds. Murphy (*Oceanic Birds of South America*, vol. II, 1936, p. 667) quotes Beck as saying that 100000 is a low estimate of the number of shearwaters one may see in the course of a single day when the migrating hordes are southward bound off the California shores.

In the course of our residence previously in Santa Barbara we several times (usually in May) saw large flights of shearwaters northward bound in the Santa Barbara Channel. In one instance a line of birds at least 30 miles in length was noted, the line being very compact with practically no rafts. Our computation of that particular line was about 300000 birds.

While on the U.S.S. Albatross some years ago, I remember vividly our steaming through an immense raft of shearwaters in the vicinity of the Aleutian Islands. The birds did not rise from the water, but flapped away from our bow, while some dove.—HENRY E. PARMENTER, *San Francisco, California, August 19, 1937.*

Nesting of the Western Robin at Redlands, California.—Inasmuch as Willett in his "Revised list of the birds of southwestern California" (*Pac. Coast Avif.* no. 21, 1933, p. 130) says that the Western Robin (*Turdus migratorius propinquus*) is a summer resident in mountains from 5000 to 9000 feet altitude, nesting but rarely in the foothills, the nesting of robins at Redlands, elevation 1400 feet, seems worthy of record. Robins were first noticed at Redlands in the summer in 1935. On June 19 at Smiley Park a nest holding young nearly ready to fly was found, situated about fifteen feet up in

a pepper tree. On July 17 another nest, also in a pepper tree, was found not far from the first. This nest held four young. We believe both nests were built by the same pair, as only one pair of birds was seen either time. Also, in July of 1935, a pair of robins was seen several times on the University of Redlands campus.

In the summer of 1936 we did not look for the robins where they were observed the preceding year, but a male was heard singing in June on the Redlands High School grounds. In 1937, robins were seen during May and June at all three places where previously observed. At Smiley Park two males were heard singing at the same time, and one nest was located.

Though the Western Robin customarily breeds at elevations above 5000 feet in southern California, the planting of large lawns and ornamental trees seems to have created an environment suitable for the robins at a much lower elevation.—HAROLD M. HILL and DAVID BILLINGS, *Redlands, California, August 28, 1937.*

Notes on Birds from Graham County, Arizona.—From March, 1935, to September, 1936, I was stationed at Safford, Arizona, the county seat of Graham County in the southeastern part of the state. In the course of incidental field observation during this time in that county, a total of 192 species of birds was observed. Included in this total are the following records which may be of interest:

Egret. *Casmerodius albus*. Seen at various times along, or near, the Gila River: March 5 and 26, April 9, and May 9, 1936; also December 19, 1935.

Black-crowned Night Heron. *Nycticorax nycticorax*. One seen May 4, 1935, at Allred's Pond near Safford. Apparently an uncommon species.

White-faced Glossy Ibis. *Plegadis guarauna*. Not uncommon along the Gila River and on reservoirs in the vicinity of Safford. A flock of 9 was seen on April 26, 1936; 16 on May 4, 1935; 1 on May 6, 1935; and 26 on August 26, 1936.

Zone-tailed Hawk. *Buteo albonotatus*. Seen in the Transition Zone on the Graham Mountains (7000–9000 feet) on April 3, May 9, and June 26, 1936. It very likely breeds in these mountains.

Long-billed Curlew. *Numenius americanus*. Seen twice, near the Double Circle Ranch headquarters along Eagle Creek on April 12, 1936, and at Safford on September 14, 1935. A single individual was seen in each instance.

Dowitcher. *Limnodromus griseus*. A flock of six was seen at Allred's Pond near Safford on April 26, 1936.

Black Tern. *Chlidonias nigra*. Immature birds were seen at reservoirs in the vicinity of Safford on August 7 and 13, 1936, and on September 28, 1935. Apparently this tern does not occur in the spring migration.

Arizona Woodpecker. *Dryobates arizonae*. Occurs in the scrub-oak belt on the Graham Mountains.

Tree Swallow. *Iridoprocne bicolor*. Rare; one record, April 3, 1936, in the foothills of the Graham Mountains.

Clark Nutcracker. *Nucifraga columbiana*. Common in the Graham Mountains in the fall of 1935. It possibly breeds in these mountains, as indicated by records for April 26 and June 28, 1936.

Red-breasted Nuthatch. *Sitta canadensis*. Probably a permanent resident in the Graham Mountains; seen June 14, 1936, and October 20 and December 19, 1935.

Dipper. *Cinclus mexicanus*. Seen in Wet Canyon in the Graham Mountains March 5, 1936, and December 19, 1935. The species is rare in southern Arizona.

Golden-crowned Kinglet. *Regulus regulus*. Recorded on June 7, 1936, from the top of the Graham Mountains, altitude 9700 feet.

Pipit. *Anthus spinoletta*. Seen in the vicinity of Safford on March 18, 1936, and on December 19, 1935.

Cedar Waxwing. *Bombycilla cedrorum*. Seen feeding on mulberries in Safford on April 28, 1936; also seen on October 20 and on December 19, 1935, in the Transition Zone of the Graham Mountains. Chat. *Icteria virens*. Apparently rare; seen once in the brush along the Gila River on May 28, 1935.

Great-tailed Grackle. *Cassidix mexicanus mexicanus*. Report of the occurrence of this species at Safford was first published by the writer in the *Wilson Bulletin* (vol. 48, 1936, p. 48). On the date of that record (May 28, 1935) three adult birds were observed. The species was noted again on May 9 and on June 23, 1936. On the latter date juvenal birds were seen. Search during the winter at the locality in which the birds had been seen failed to reveal the species.

Lazuli Bunting. *Passerina amoena*. Apparently rare. Met with but once, on May 7, 1935, in the foothills of the Graham Mountains.

Evening Grosbeak. *Hesperiphona vespertina*. Five individuals were seen in the Transition Zone of