

OBSERVATIONS ON THE SPRING MIGRATION OF
APHRIZA AND GAVIA IN THE GULF OF CALI-
FORNIA.

BY LAURENCE M. HUEY.

MARKED advance has recently been made in searching out the secrets of the life history of the Surf-bird (*Amphriza virgata*). During the past year its nesting grounds have been located in Alaska, and previous work along the west coast of South America established its southernmost winter range. Its migratory movements, however, are not yet well defined. In North America, straggling birds have been taken, during the winter, from southern Alaska to San Diego. The largest flock that appears to be recorded in literature was at Santa Barbara and contained twenty-three birds (Dawson, "Condor," XV, pp. 5-8). The writer's surprise may therefore be imagined when, upon first viewing the water of the Gulf of California, near its head, at San Felipe, Lower California, on March 22, 1926, he saw a flock of about one hundred Surf-birds rise in compact mass from the rocky shore. At that moment he little realized that during his entire stay at San Felipe he was to come into intimate contact with this supposedly rare species. In fact, the birds later became so common that the thrill of seeing them passed and they were given no more attention than other shore birds. On April 16, evidently the peak of the migration, the greatest abundance was observed, when a flock of at least eight hundred individuals was seen congregated on the rocky shore above the village. On the last tramp along the waterfront, April 24, before leaving San Felipe, a flock of forty was seen. They seemed always to prefer the rocky shore line near the wash of the waves—if there were any waves, for on quiet days the Gulf waters seemed to rise and fall with scarcely a ripple. This rock-haunting habit seems to be recorded in practically all references to the Surf-birds.

The discovery of such a mass of transient Surf-birds, bottled up, so to speak, at the head of the Gulf, sets one to pondering as to where they go from there. Birds of near relationship are known to make long uninterrupted flights. The Golden Plovers, both of

the Pacific and Atlantic seaboard, are said to take 2,000-mile "hops." But the long flights of the Golden Plovers are over the level surface of the ocean, while the great flocks of Surf-birds in the upper end of the Gulf of California were surrounded by bleak, barren deserts and high mountain ranges in every direction, rendering the problem even more perplexing. Black Turnstones, which share the Surf-birds' niche in habits, are found regularly all along the western coast on their migrations and even during the winter. To be sure, straggling Surf-birds, too, have been recorded, but it is this mass assemblage with which we are at present concerned and the direction of their flight. Surely such assemblages could not have passed along the western coasts regularly for the past half century without having been seen by some competent collector. Can it be that this was one of the last points of contact of this species with its winter range, and that the next stopping place of the great Surf-bird flocks is in the neighborhood of their breeding grounds? Frank Stephens states that he has seen flocks of Surf-birds in Alaska.

Other migratory sea and shore birds, which follow up the placid waters of the Gulf of California on their northward migration, also offer an interesting problem in the matter of routes. Perhaps some of the Curlews and Sandpipers continue along the Colorado River or through the irrigated valleys of the western states to their inland nesting grounds.

As to Pacific Loons (*Gavia pacifica*) which were not uncommon at San Felipe, certain observations shed light on their northward route. It happened that, during the period between April 16 to 20, the writer, in making collections for the San Diego Society of Natural History, was occupied in running a line of mouse traps several miles back from the shores of the Gulf and it was necessary to be abroad as early as light would permit. At this early hour during the above-mentioned days, the whistle of wings was several times heard overhead, well inland. All of the birds observed that were close enough for identification proved to be Pacific Loons. The interesting feature was not so much the presence of the birds as the direction of their flight, for they were headed straight for the high mountains to the westward and directly away from the shore line of the Gulf. Oddly enough they were observed only during the

early morning hours, either before or about sunrise, in spite of the fact that, after the first observation of their peculiar flight direction, a sharp lookout was kept for mid-day movements. Like the Surf-birds, the Loons faced bleak, barren deserts and high mountain ranges before reaching their summer home, although, to be sure, the course they were on would take them to the waters of the Pacific in less than a hundred miles of flight. We hardly credit birds of the Loon family with the ability to fly to such altitudes as were ahead of those taking the overland route westward from the Gulf, for in but a single place west and toward the north of San Felipe, can a pass be found lower than 3,200 feet in elevation. This pass, between the Sierra San Pedro Martir and Sierra Juarez, is fairly narrow and is in a direction far from the course that the west-bound birds appeared to be following, necessitating the crossing of even longer stretches of torrid deserts, which at this season were at a most uninviting temperature.

*Natural History Museum,
Balboa Park, San Diego, California.*