

California Gulls and Herring Gulls Breeding in the Same Colony.—The exact systematic position of the California Gull (*Larus californicus*) seems to be a matter of some dispute. This form is usually recognized as a full species; but Stegmann ("Ueber die Formen der grossen Möwen [subgenus *Larus*] und ihrer gegenseitigen Beziehungen," 1934, Journ. für Ornith., **82**: 340-380) suggested that it should be regarded as a subspecies of the Herring Gull (*L. argentatus*), and his suggestion has been supported by a number of other workers, e.g. Fisher and Lockley ("Sea-birds," Collins, 1954: 38-43). In view of this disagreement, the following observations would appear to be significant.

During June, 1954, and May and June, 1955, I spent several weeks observing gulls at Dog Lake, Manitoba. Both Herring Gulls and Ring-billed Gulls (*L. delawarensis*) have long bred on some of the small, low, rocky islands in this lake. The most favored island, in 1954 and the first part of 1955, was Pelican Island, where the colony of Ring-bills included approximately 4000 birds at its peak in 1955, and the colony of Herring Gulls included approximately 100 birds.

Surprisingly enough, California Gulls were also present on this island in both years. A mated pair and a single bird were seen in 1954; and two pairs and an apparently unmated male were seen in 1955.

The California Gulls were easily recognized by their size, proportions, and distinctive flesh colors. I was able to observe them repeatedly, from a blind, at very short distances (2 feet to 10 yards); and my identification was confirmed by Mr. Ralph Otto and Mr. Robert Klopman (who succeeded in photographing the birds).

These California Gulls were definitely breeding.

The mated male and female observed in 1954 were incubating. Their nest contained one egg, and some indications (i.e. dried egg-yolk) of another egg recently destroyed. (The remaining egg was collected and hatched. The chick was kept at the Delta Waterfowl Research Station for several weeks, until it was taken by a Great Horned Owl. This young bird was definitely larger than most Ring-billed Gull chicks, and smaller than most Herring Gull chicks, of the same age. Its developing plumage appeared to conform to the published descriptions of the first plumage of young California Gulls collected in the wild.)

The birds observed in 1955 were in the pre-incubation stage of the breeding cycle. They were territorial and showed many hostile and sexual behavior patterns, including apparently successful copulations.

The territory selected by the incubating pair of California Gulls in 1954 was on the slope of a low, rocky ridge, roughly midway between a concentration of Herring Gull nests on the crest of the ridge and a concentration of Ring-billed Gull nests on the low flat ground beside the ridge. The territories selected by the California Gulls in 1955 were on the crest of the same ridge, scattered amid the territories of both Ring-bills and Herring Gulls. (The water level of Dog Lake was unusually high in 1955, Pelican Island was much reduced in size, and all the breeding birds were crowded together.)

The California Gulls nested later than most of the Herring Gulls and many of the Ring-bills. The egg collected in 1954 hatched on June 22, when most of the Herring Gull chicks were approximately two to three weeks old, and many of the Ring-bill chicks were at least several days old. The California Gulls observed in 1955 were still in the pre-incubation phase on June 19, after most of the Herring Gulls and Ring-bills had completed incubation. (It is possible that the California Gulls began to nest during late May or early June of 1955, and then had their nests destroyed by rising waters. There is a gap in my observations for this period.)

All the observed encounters between California Gulls and Herring Gulls or Ring-bills were purely hostile. The nesting Ring-bills, and all other Ring-bills on their own territories, reacted to the approach of a California Gull in much the same way that they reacted to the approach of other "dangerous" animals or potential predators, such as Herring Gulls or White Pelicans. (The California Gulls were the most inveterate egg-thieves on the island.) The mere approach of a California Gull was apparently enough to activate both the attack and escape drives of a territorial Ring-bill, usually stimulating both drives very strongly and the escape drive slightly more than the attack drive. The approached Ring-bill would usually show high-intensity hostile displays, most frequently the high-intensity display containing the relatively strongest escape element (see Moynihan, Behaviour, In Press, for a description of these displays). Only very rarely would a territorial Ring-bill make a brief and hesitant attack on an intruding California Gull. Ring-bills away from their territories usually avoided California Gulls by simple retreat. A few Ring-bills, apparently drawn by the sight of food, would sometimes approach a California Gull when the latter was eating stolen eggs; but the California Gull always attacked them immediately, and they were always forced to flee. The California Gulls usually ignored the Ring-bills in other circumstances. Similarly, the California Gulls and the Herring Gulls usually ignored one another. I did not observe any contacts between the incubating California Gulls and Herring Gulls in 1954. In 1955, however, I saw several disputes when a California Gull and a Herring Gull tried to steal the same egg. These disputes were quite as brief as the similar squabbles between California Gulls and Ring-bills; but in these circumstances it was the Herring Gull that attacked and the California Gull that fled.

It should be noted, incidentally, that some of the hostile displays of the California Gulls, relatively common during certain intra-specific disputes, were rather distinctive in physical form, differing from the homologous displays of both the Herring Gulls and the Ring-bills.

California Gulls have been observed in Manitoba on several previous occasions (I am grateful to Mr. A. G. Lawrence, of Winnipeg, for looking up these earlier reports); but I believe that this is the first authentic breeding record for the Province. In any case, the apparent absence of sexual or "friendly" social reactions between the California Gulls and Herring Gulls on Pelican Island would strongly suggest that the two forms are now separate species.—M. MOYNIHAN, *Museum of Comparative Zoology, Harvard University, Cambridge 38, Massachusetts.*

A Preliminary Study of Subspecies of Savannah Sparrows at the Savannah River Plant, South Carolina.—During January and February, 1955, an intensive study of population density and habitat selection of wintering fringillids in abandoned fields of the Atomic Energy Commission's Savannah River Plant, Aiken and Barnwell counties, S. C., was made as part of the University of Georgia's AEC-supported program of ecological studies directed by Dr. Eugene P. Odum. Winter fringillids are very important in the ecology of old fields since these birds together with certain rodents are the chief "harvesters" of seed crops which have been produced throughout the growing season. In these studies large numbers of birds were caught with Japanese mist nets, banded, and released. The Savannah Sparrow (*Passerculus sandwichensis*) was by far the most abundant species in fields now three years abandoned to cultivation.

On January 15 and 16 I obtained a sample of birds from three diverse types of Savannah Sparrow habitat to determine qualitatively the subspecific composition of the populations. Net operations were under the direction of Gordon Hight, Jr.