

THE CONDOR

A BI-MONTHLY MAGAZINE OF
WESTERN ORNITHOLOGY

Published by the
COOPER ORNITHOLOGICAL CLUB

VOLUME XXXV

MARCH-APRIL, 1933

NUMBER 2

TERNs AS DESTROYERS OF BIRDS' EGGS

WITH ONE ILLUSTRATION

By A. J. VAN ROSSEM

Everyone who has visited a sea-bird colony during the egg season has viewed with exasperation the depredations committed by gulls, particularly the larger species. Even the most sentimental pseudo-conservationist cannot but long for the means with which to blast out of existence the ever increasing surplus of cannibals which are making such inroads into our murrens, cormorants, and other species whose eggs are not placed out of sight underground.

Terns, though closely related to gulls, have pretty generally escaped the stigma attached to their larger relatives; but more than one writer has suspected them of being not so blameless as one could wish. Bent (*Life Histories of North American Gulls and Terns*, 1921, p. 209) says "It [the Caspian Tern] has been said to eat the eggs and young of other birds but I have never seen any evidence of this habit." Peabody (*Osprey*, 1, 1896, p. 3) strongly suspects that *Sterna forsteri* is no "white-winged angel" for he remarks that ". . . the character of this tern inclines me to think that he occasionally plays the cannibal". And finally the European Gull-billed Tern and the Caspian Tern are both said by Witherby (*Practical Handbook of British Birds*, 2, 1924, pp. 697, 700) to include in their diet the eggs and young of other birds.

So much for the reputation of terns in general. They have been suspected but, so far as I am aware, seldom proven guilty. During the summers of 1920, -21 and -22, a large part of my time was spent at Buena Vista Lake at the upper (southern) end of the San Joaquin Valley of California, preparing specimens and photographing the water-birds of the region. Two species of terns, the Forster and the Black (*Chlidonias nigra surinamensis*), breed commonly on this lake in such years as it contains any water, and a third, the Caspian (*Hydroprogne caspia imperator*) does so sporadically. The first two were under observation nearly every day, and the sum total of observations left no doubt whatever that the Forster Tern often destroys unprotected eggs and that the Black does so rarely.

In May, 1920, when I first arrived at the lake, the surplus flood from the Kern River was raising the level of the lake an inch or more a day and in the process thousands of acres of ripening grain were slowly disappearing beneath the water. The only plant which was able to accommodate itself to the constantly changing level was a species of polygonum, so that by July a more or less dense growth of this weed was flourishing everywhere in water less than three feet in depth. Underlying the growth of polygonum was a sodden layer of grain stalks, for the most part in

full head. In this tangle young carp, an inch or more in length, swarmed in unbelievable numbers.

All in all it is probable that never in the history of the lake had such an ideal combination of shelter, food, and nest sites been presented to such a wide variety of birds as were present that year. Forster Terns and Western Grebes were the



Fig. 7. FORSTER TERN ON APPROPRIATED NEST OF THE WESTERN GREBE.

Photograph taken July, 1921, at Buena Vista Lake, California.

commonest fish-eating species present. The two occupied together a patch of flooded grain and polygonum perhaps a mile long by half a mile wide in shallow, two-foot-deep water near the north shore, and their nests were scattered at intervals of a few feet throughout this area. For the most part the terns laid their eggs in appropriated nests of the grebes, or sometimes on windrows of fallen grain. In the cases of appropriated grebes' nests it is likely that they were taken over during the absence of the original owners in intervals between egg layings, for no nest which held more than one grebe egg was so usurped. (See fig. 7.) The point to be made is that in this mixed colony no egg destruction was ever observed.

The terns' nesting was confined to the area described, but they did not feed there. The growth was too thick, and open water, except for winding channels which marked the location of former roads, was too limited for good fishing. For food they repaired to a comparatively open, shallow area some two miles to the eastward, where young carp of suitable size were particularly abundant, and all day long a succession of birds could be seen passing back and forth between the nesting and feeding grounds. In this feeding area was another colony of grebes whose grain-stalk nests showed up conspicuously in the absence of protecting cover. Many of

these nests were raided by the terns, not systematically as gulls would have done, but in a more or less haphazard manner. Many nests were not molested at all; others had every egg broken or rolled into the water, while in others only a single egg would have a hole pecked in the side and its contents puddled about the nest.

That species other than grebes occasionally suffer is probable, though no instance was observed. A tern which alighted on a coot's nest was promptly chased off by the flustered parent, who skittered up from some 50 yards distance, although two people were standing close to the nest at the time. Whether or not this particular tern had designs on the eggs is secondary to the fact that the coot regarded it as an enemy.

No depredations by Forster Terns were noted in 1921, possibly because both grebes and terns were less numerous that year, and possibly because I was occupied with other species. However, one instance, in which as usual the western grebe was the victim, was noted on July 22, 1922. Possibly there were others, but, if so, they were unrecorded.

Certainly egg destruction by Black Terns is rare and I saw only one instance of it. I had never seen the slightest evidence that Black Terns were in the least degree interested in the eggs of other species and therefore was very much surprised to witness not one but three of these birds break a Pied-billed Grebe's egg. My notes for June 11, 1921, record the circumstance as follows: "Found a Pied-billed Grebe's nest containing one fresh egg which was well covered. I neglected to replace the covering, and before I had gone more than a few steps the egg was pounced on and eaten by three Black Terns". Certainly if a dog is legally entitled to one bite, a Black Tern is also, and one cannot condemn it on an isolated and unquestionably exceptional circumstance.

Why raids by Forster Terns on the eggs of other species were conducted outside of the nesting area, while within it no destruction was ever noticed, is probably a matter of psychology. The terns were on the fishing ground for one purpose only, the procuring of food, and that unguarded eggs are sometimes included in this category was demonstrated on many occasions. On the other hand, eggs and nests, within the breeding area, are evidently regarded with a good deal of tolerance regardless of whether or not they belong to their own species. So many instances of multiple layings in a single nest were observed that one is forced to the conclusion that many birds are extremely casual as to where they deposit their eggs. "Sets" of as many as five eggs were noted which were clearly the products of two and even three birds, and the various stages of incubation in such sets showed that the extra eggs had been laid long subsequently to the initial set. This communistic tendency, if one may so refer to parasitism on their own kind, is suggested as a reason for the immunity from destruction of the grebes' eggs within the area in which the terns were also nesting.

California Institute of Technology, Pasadena, December 9, 1932.