

The California Condor in Nevada.—A complete ulna of the California Condor (*Gymnogyps californianus*) was lately placed in my hands for identification. It was taken during the excavation of Gypsum Cave just out of Las Vegas, Nevada, by parties from the Southwest Museum and California Institute of Technology. Dr. Chester Stock reported on the mammal fauna of the cavern before the National Academy of Sciences (Science, LXXII, no. 1868, October 17, 1930, p. 405) and discussed this mammal fauna, which includes horse, bison, camel, ground sloth, and human artifacts. The Condor bone was not immediately associated with these mammals and the degree of its antiquity is uncertain. It is perhaps not fossil, but it is doubtless several centuries old since there has been a considerable degree of mineralization of the bone.

Mr. W. Lee Chambers has gathered a large mass of data on the Condor in historical times which will, I hope, be soon put on record. The present record is, so far as we can learn, the first report of the species from Nevada.—LOYE MILLER, *University of California at Los Angeles, November 3, 1930.*

Observations on the Incubation and the Care of the Young in the Jacana.—Pickwell (Auk, xxiv, 1930, p. 504), writing on incubation in the Killdeer, has commented on the lack of data concerning the participation of the sexes of shore-birds in the duties of incubation. In this article he includes the Mexican Jacana in a list of shore-birds for which insufficient or no data are available relative to the performance of incubation and the care of the young.

In the summer of 1925, I had opportunity to collect and observe breeding Jacanas (*Jacana spinosa*) at Lake Olomega, Salvador, Central America. My notes taken at the time appear to supply some pertinent information as to the relation of the sexes in this species; a digest of these notes is presented here.

On July 29 a visit to the north side of the lake revealed the presence of a large colony of Jacanas nesting on the low floating vegetation that extended about one hundred yards off-shore. The water beneath the vegetation averaged approximately two and one-half feet in depth. Adult birds were scattered about over the marsh, but a flock of immature and fully grown juvenal birds was noted along the shore. Male and female Jacanas could be distinguished readily in the field by the difference in their sizes, the males being the smaller. Males that were shot showed brood patches on the breast. Unfortunately, no notice was taken of the presence or absence of brood patches in females. The adults were extremely noisy and stood in pairs or groups of three or four, chattering and extending and fluttering their yellow-lined wings above their backs in a most spectacular fashion. Several birds were seen to engage in "broken wing" antics. In one instance I observed two females in pursuit of a single small male. In general the females seemed to be more aggressive in courtship than were the males.

On August 1, a return to the same marsh led to the discovery of seven sets of Jacana eggs in varying stages of incubation. The nests each consisted of a damp pad of the surrounding water plants that grew no more than two inches above the surface of the water. Only on close inspection could it be determined that the natural growth of plants had been thickened slightly, sufficient to support the eggs (see fig. 3). As a consequence of this and of the dark color of the eggs, nests were surprisingly difficult to locate. On first entering the marsh a male Jacana with several small young was seen running across the surface of the vegetation. As I approached within about thirty yards he left the young and commenced flapping and fluttering among the water plants. The young at once disappeared from view. After a thorough search two of the young were found in a thick clump of vegetation. They were submerged in the water with only their bills and the tops of their heads showing above the surface. Judging from their size they had been hatched only a few hours previously, yet they could run swiftly on the floating plants with their large well-developed feet. The only female in the immediate vicinity of this brood evinced no interest in the young and made no demonstrations such as those given by the male. It was my belief, as expressed at the time, that the male performed all of the "nest duties."

At a still later visit to the Jacana colony on August 8, seven additional sets of eggs were taken and as many more sets were left untouched because of advanced incubation. Most of the sets consisted of four eggs, although three complete sets

of three eggs were noted. During this visit it was found that by watching the marsh at a distance of from fifty to seventy-five yards Jacanas could be seen to appear suddenly out of apparently uninhabited patches of water plants, whereupon they quietly ran or sneaked with lowered head away from the point of first appearance. Almost invariably eggs could be found near the point where the birds first came into sight. The sneak from the nest usually was at an oblique angle to the line of my approach. After reaching a distance of about twenty yards from the nests the birds began to chatter and show alarm. The demonstrations indulged in by these incubating birds were much less frantic than the demonstrations of birds accompanied by young.

Locating nests in the manner described made possible the identification of the sex of the birds engaged in incubation. In all cases it was the male bird that was



Fig. 3. NEST AND SET OF FOUR EGGS OF *Jacana spinosa*, LAKE OMEGA, SALVADOR, CENTRAL AMERICA; PHOTOGRAPHED AUGUST 8, 1925.

flushed from the nest. In some instances the females were near-by but they were little disturbed by an intruder at the nest. It was my impression that females were more often seen about nests containing fresh or slightly incubated eggs than about nests with heavily incubated eggs or where there were young. On this day "broken wing" antics were seen only in cases where the eggs were hatching or where young were following the male parent.

It is fairly clear to me, therefore, that the male *Jacana spinosa* performs most if not all of the incubation. The males also care for the young. Females take relatively little interest in eggs and young, although they may be present in the vicinity of the nest. Females are decidedly active in courtship. The reversal of the customary sex behavior of birds probably is as complete in this species of Jacana as in the Killdeer.—ALDEN H. MILLER, *Museum of Vertebrate Zoology, Berkeley, California, October 27, 1930.*