

FROM FIELD AND STUDY

Bathing Behavior of Frigate Birds.—Frigate birds are generally thought never to alight or dive into water during their daily activities. For instance, Burton (Trans. Linn. Soc. London, 13, 1822:4) stated that the preen gland of the Ascension Island frigate bird is: "totally insufficient for" a sea fowl. He further stated that the bird's plumage immediately becomes water-soaked when placed in the sea. In this regard John Gould and Charles Darwin commented (1841, *The Zoology of the Voyage of the Beagle*, pt. 3:146): "The Frigate Bird, when it sees any object on the surface of the water, descends from a great height, in an inclined plane, head foremost, with the swiftness of an arrow; and at the instant of seizing with its long beak . . . it turns upwards . . . by the aid of its forked tail, and long, powerful wings. It never touches the water with its wings, or even with its feet . . . [we] never heard of one having been seen on the surface of the sea; and it appears that the deeply indented web between its toes is of no . . . use to it."

Recent observations have, in general, corroborated these reports and it is now generally thought that frigate birds obtain their food, and probably some of their nesting materials while flying. In addition there are published records of frigate birds drinking from the surfaces of freshwater ponds, also while flying. Murphy (*Oceanic Birds of South America*, Vol. II, 1936:937) states: "In the crater-lake called El Junco, at an altitude of 800 meters or more on Chatham Island of the Galápagos, Man-o'-war Birds have . . . been observed to strike and splash against the surface. There can be little doubt that on such occasions they drink fresh water . . ." Fisher (*Condor*, 6, 1904:57-61) reported upon *Fregata minor* at Laysan Island in the middle north Pacific Ocean (p. 60): "[The] birds drank from a small pond. They flew back and forth about twenty feet above the surface, then suddenly darted downward in a long curve, and just at the right instant . . . bent the head down, dropped the lower mandible, and scooped up a little water."

However, Bonhote (*Ibis*, 1903:273-315) relates observations of individuals of *Fregata magnificens* which partly entered the water. In his observations of these birds on the northern Bahama Island he states (p. 312): "The specimens that I secured were got as they came down to a freshwater pond to bathe. They arrived nearly every morning in small parties of from six to ten and splashed into the water like Swallows, never settling, but rising again and in about three or four minutes going off to sea." This is apparently the only recorded instance of bathing behavior in this genus.

We can now report an additional and somewhat more detailed observation of bathing behavior of *Fregata magnificens*. At about 9 a.m. on February 5, 1962, the authors were walking along the top of a dam which blocks the Río Mulegé, Baja California, from its saline estuary (located at latitude 26° 53' N, longitude 111° 59' W) when a milling flock of 50 to 60 frigate birds was seen circling counter-clockwise over the small freshwater lake impounded behind the dam. We were able to approach within about 75 yards of the birds, apparently without affecting their activities. From this vantage point we were able to observe and photograph both individual and group behavior. The birds descended from an altitude of about 200 feet and continued circling just above the water surface when they reached an opening between bordering trees and cliffs. Soon some of the birds began to hit the water, each for a brief moment, after which they fluttered back into the air to rejoin the swooping, spiralling group of birds above. At the height of the behavior as many as five birds were hitting the water at any one instant. Before hitting the water surface, each bird raised its head about 20° from the horizontal and lowered the posterior part of the body and tail. The attitude assumed was much like that an aircraft pilot would assume with his plane before "ditching" at sea. It was noted that the feet of the birds were pulled up tightly against their bodies at the moment of impact and did not seem to be lowered during the brief moment of immersion. It seemed doubtful if any of the birds ever lost momentum completely while in the water, but fluttered back into the air before this could happen. Toward the end of the observations some of the birds did not rejoin the circling birds above them but climbed to an altitude estimated at 75 to 200 feet and departed singly. After hitting the surface, the birds first shook the water from their long tail feathers by switching them rapidly from side to side. They then ruffled their body feathers and shrugged violently, sending excess water flying. During this time the wetted feathers of the birds gave them a decidedly ragged appearance. The shaking movements always resulted in a loss of lift and the birds fell many feet before recovery of controlled flight occurred. The bathing continued for at least 20 minutes, and individuals appeared

to strike the water more than once during the episode. Gradually, the number of birds at the pool decreased, some flying directly seaward down the river, and some climbing to great heights and disappearing over the edges of the abrupt canyon walls. When we left the scene, after the majority of birds had risen from the pool, we saw a large mill of gliding frigate birds high in the sky over us.

This behavior is very different from the drinking behavior reported by Fisher (*op. cit.*). None of the birds we watched during the bathing process submerged its head, but instead raised it higher out of the water than any other portion of the body except for its wing tips. The saturated appearance of the birds after their brief immersions of a second or two is in good accord with Burton's observations that the feathers of the species saturate quickly.

It seems likely that to stop dead in the water would place frigate birds in dire straits, particularly in view of the foot and wing characteristics of these strongly flight-oriented birds and the non-waterproof nature of their feathers. If this is the case, then the bathing behavior reported here must be indulged in only at some risk to the birds.—WILLIAM V. KIELHORN, KENNETH S. NORRIS, and WILLIAM E. EVANS, *Lockheed California Corporation and Department of Zoology, University of California, Los Angeles, California, August 12, 1962.*

A Further Record of a Rose-breasted Grosbeak in Northern California.—On June 29, 1962, at 5:30 p.m., Frances D. Shelton found a male Rose-breasted Grosbeak (*Pheucticus ludovicianus*) at Plantation, California. This is a children's summer camp situated about ten miles north of Fort Ross in Sonoma County. The camp is about one mile inland from the coast in the redwoods.

The grosbeak had been slightly injured and was picked up on a dirt road near the camp buildings. It was placed in a cage, and it soon appeared to have recovered from the injury. (A photograph taken was examined by the editor.)

Grinnell and Miller (*Pac. Coast Avif. No. 27, 1944:441-442*) list one other record for northern coastal California.—LEONARD A. SHELTON, *Claremont, California, August 30, 1962.*

Recent Records of Birds in Korea.—Austin (*Bull. Mus. Comp. Zool., 101, 1948:44*) lists eleven specimens of the Bittern (*Botaurus stellaris stellaris*) taken in Korea between 1913 and 1934 and considers it an irregular visitor. Observations of the senior author support this opinion, since, to date, he has never encountered it. However, on January 21, 1962, Anthony A. Greco of Seoul, presented us with a male he had shot in a grassy swamp along the southern edge of the demilitarized zone, approximately 5 miles north of Munsan-ni, Kyonggi-do. It weighed 998 grams and bore no fat. The stomach contained remains of several large beetles. Of the eleven specimens listed by Austin, none was taken in January. A single record of December 25 appears to be the only other winter record for the species in Korea.

Austin (1948:112) considers the Long-billed Plover (*Charadrius placidus*) an uncommon spring and autumn transient in Korea, although he lists two January specimens. In addition to several spring and fall records, the senior author has observed and collected it in December in Kyongsang Pukto and in December and January in Kyonggi-do. Frank Kuhlman collected it in Kyonggi-do in December of 1956 and in February of 1957 whereas King observed and/or collected it upon six different occasions in Kyonggi-do in the period from December 17, 1961, through February 22, 1962. Consequently, the species appears to be a fairly regular winter visitor in South Korea as well as a spring and autumn transient.

Austin (1948:199) refers to the Chinese Babbler (*Rhopophilus pekinensis*) as a rare visitor to Korea and of uncertain status. He lists a total of twelve known specimens collected between 1912 and 1932. Only one of these was collected in Kyonggi-do. The rest are from provinces in northern Korea. The senior author has failed to encounter the species during the past ten years in Korea which fact appears to support Austin's opinion. However, on December 9, 1961, King observed three near the summit of Nam-san, a small, wooded and grassy mountain of approximately 800 feet elevation rising on the immediate southern edge of the city of Seoul. They were closely associated, in fairly high grass and small pines (approximately three to four feet in height) and kept up a constant, loud "chatter," which betrayed their presence. This habitat and vegetation is identical to that in which the Korean Crowtit (*Suthora webbiana*) has often been observed and collected. King collected two of the group of babblers, both females and of the nominate race. They weighed 17 and 20 grams, respectively, and