

(N. Amer. Fauna no. 65, 1968), which is known to breed in Quintana Roo, México. We assign our specimens to that race. The gonadal condition of our specimens indicates breeding.

Black-billed Cuckoo. *Coccyzus erythrophthalmus*. Dick obtained a Black-billed Cuckoo (ROM 104057) at Rockstone Pond on 4 May 1969. The bird demonstrated heavy fat and weighed 46 g. The left testis measured 6×4 mm. Russell (Ornithol. Monogr. no. 1, 1964) placed this species on a hypothetical list for British Honduras (Belize) because the only previous record was of a bird seen by Morton E. Peck at Toledo Settlement on 15 November 1906.

Collared Araçari. *Pteroglossus torquatus*. Russell (op. cit., p. 96) indicated that nesting of this common species had not been verified in British Honduras. Esther Pendergast had several nests under observation near Rockstone Pond in the late spring of 1969. On 4 June 1969 her husband, Dr. David Pendergast, ex-

posed a nest in a cavity 13 ft up in a coconut palm (*Cocos nucifera*); the nest contained three partially feathered nestlings. A female (ROM 97230) collected on 18 April 1966 by D. H. Baldwin at Rockstone Pond had an enlarged ovary 20 mm in diameter with the largest ovum measuring 4 mm. Dick obtained a female (ROM 104125) at Rockstone Pond on 25 April 1969 weighing 168 g and with an ovary measuring 14×7 mm and the largest ovum 2 mm. The oviduct was enlarged.

The authors are most grateful to D. Pendergast, Director of the R.O.M.'s archaeological camp at Rockstone Pond, for innumerable kindnesses and courtesies throughout the course of the field work. We wish to thank the officials of the Forestry Department, British Honduras (Belize), for granting scientific collecting permits to Dick and Pendergast.

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SOOTY TERN EGG PREDATION BY RUDDY TURNSTONES

RICHARD S. CROSSIN¹

Pacific Program
Smithsonian Institution
Washington, D. C. 20560

AND

LAWRENCE N. HUBER

6832 East 38th Street
Tucson, Arizona 85710

In the late afternoon of 10 January 1969 we were observing a Sooty Tern (*Sterna fuscata*) colony on "Janet" Island (Engebi), Eniwetok Atoll, Marshall Islands. We watched from inside a parked vehicle about 60 ft from the densely packed colony in which nests in many places were spaced only a foot apart. The terns had quieted down and seemingly were no longer disturbed by our presence. At about 18:00 a single Ruddy Turnstone (*Arenaria interpres*) was noted walking along the edge of the colony, sometimes venturing 10 ft or so into the massed terns. Most of them made feeble pecks at the intruder as it moved among them, but none really attacked. The turnstone was very alert and side-stepped and dodged in avoidance. At times enough terns made threatening maneuvers to cause it to fly to the edge of the colony.

Within 15 min four more turnstones alighted at the edge of the colony in front of us. A few minutes later three of them were spaced at roughly equal distances around an incubating tern which had been blue leg-streamered and banded the night before and thus was easy to see during the ensuing action. When it lunged at one turnstone which had ventured too close, one or both of the others spontaneously ran toward the exposed egg. This caused the tern to retreat immediately to the egg and lunge anew at one or the other of the nearer turnstones. The three rapidly circled the tern, alternately pressing forward and being driven back. A fourth turnstone then joined the others and the tempo increased markedly. By this time the tern was very excited and made forceful lunges at the turnstones. At times during these attacks the bird was about a foot from the egg, but it always retreated quickly enough to prevent any encroaching turnstones from reaching it. On one lunge, however, a turnstone reached almost under the tern and pecked the egg.

Later examination revealed a gaping hole about $\frac{3}{4}$ inch in diameter. Perhaps more than one turnstone had pecked the egg. During the early minutes of the battle an unmarked tern, probably the mate, came to the side of the incubating bird only to be immediately repulsed, possibly because of the latter's agitation. Although the unmarked bird quickly returned to the side of the defending bird and was not again repulsed, it attempted no defense against the turnstones. Things quieted after about 12 min of intense action, and the turnstones wandered off in different directions.

Although we observed other turnstones about the colony until dark, we noted no other concerted attacks; single birds, however, were seen moving about, usually near the edges. Once a tern left an egg to press a territorial attack on a neighboring tern. In an instant a nearby turnstone darted in and pecked the exposed egg three times before the returning parent drove it off. For the most part the terns ignored or delivered only low intensity pecks at the turnstones as they meandered through the colony. Most serious lunges appeared to come from incubating birds.

Although turnstones are common on all of the central Pacific islands where we have worked for several years, neither of us has ever noted egg predation by this species on seabirds. Dr. Alexander Wetmore, however, (pers. comm.) recalls that on Laysan Island in 1923, Ruddy Turnstones made heavy inroads on eggs of the Sooty Tern, and also on those of the Gray-backed Tern (*Sterna lunata*). As these migrant shorebirds increased in number during April he was careful not to disturb the incubating terns, because, if he walked into their colonies, turnstones followed close behind to break and eat the eggs. The destruction was so widespread from casual entry, however, that when he collected a small series of eggs for specimens to show variation in pattern of marking, it required search to find perfect examples in which the shell had not been broken. He concluded that the terns had a limited chance of nesting success until the bulk of the turnstones had left in northward migration.

In the Eniwetok Sooty Tern colony, considerable predation on the eggs had taken place, particularly along the edges. In places, as many as a dozen broken, empty eggs were found in small piles. This was probably destruction by curlews, which are notorious egg eaters. Two species, the Bristle-thighed Curlew (*Numenius tahitiensis*) and the Whimbrel (*Numenius phaeopus*), were common about the island,

¹ Present address: Neotropical Ornithological Institute, 1719 North Huachuca Street, Tucson, Arizona 85705.

and the former were occasionally seen near the tern colony.

If predation occurs at anywhere near the frequency that we noted, terns lose a very high percentage of eggs throughout the incubation period. Although it is doubtful that the turnstones could take immediate advantage of pecked eggs, the terns probably quickly desert broken eggs, leaving them unguarded for the turnstones to eat. Based on complete shoreline and partial interior count, at the time of our visit an estimated 150 Ruddy Turnstones were present on "Janet" Island, and 28,000 eggs with about 60,000 attending

adult Sooty Terns. "Janet" Island has the only Sooty Tern breeding colony on Eniwetok Atoll.

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WINTER WING MOLT IN THE WESTERN GREBE

FRED C. SIBLEY¹

Patuxent Wildlife Research Center
U. S. Bureau of Sport Fisheries and Wildlife
Ojai, California 93023

During bird-cleaning operations associated with an oil leak in the Santa Barbara Channel, 300–400 Western Grebes (*Aechmophorus occidentalis*) were examined and 35 were found to have been undergoing a full wing molt. The oil slick appeared on 28 January 1969, and by the next day Western Grebes coated with oil were coming onto the beaches. On 3 February, 66 live and dead birds at the cleaning stations and an additional 12 birds picked up on 30 January were examined. Of these birds, 16 (approximately 20 per cent) were in the process of molting the flight feathers. The remiges were at various stages of regrowth. In some birds the feathers were just emerging from the sheaths, and in others they were nearly full grown.

By 10 February at least 400 more Western Grebes had come ashore. Of 103 survivors examined, only six were molting their wing feathers. This probably indi-

cates that molting birds come ashore sooner and succumb more rapidly than do non-molting birds. The limited data on individual birds made it impossible to verify this hypothesis.

An additional 13 molting grebes were examined at beaches 20–40 miles from Santa Barbara during February. However, the date of first appearance of oil offshore from these beaches and the total number of grebes removed is unknown.

According to Palmer (Handbook of North American birds. Vol. 1. Yale University Press, New Haven, 1962. p. 94–104), the Western Grebe undergoes a complete wing molt in the fall. He lists only one instance of a winter wing molt (Palmer says "molting rectrices" but this is presumably an error). No reliable aging criteria were found. The limited sample of molting birds autopsied consisted of five males and five females.

Storer (Living Bird 4:59, 1965) describes two color phases of the Western Grebe, a light phase with orange-yellow bill and a dark phase with a dull greenish-yellow bill. Only two of the 35 molting birds had yellow-orange coloring anywhere on the bill, although 40 per cent of the 103 birds examined 10 February had this light phase bill color. It is possible that the molting birds represent a separate population since Storer states that the dark-phase birds are more numerous in the northern populations.

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¹ Present address: Point Reyes Bird Observatory, Palomar Ranch Mesa Rd., Bolinas, California 94924.

OCCURRENCE OF THE EASTERN SPECIES OF *OPORORNIS* AND *WILSONIA* IN CALIFORNIA

GUY McCASKIE

San Diego Natural History Museum
Balboa Park
San Diego, California 92103

Intensified fieldwork by an increasing number of ornithologists has in recent years produced records of most of the eastern species of wood warblers (*Parulidae*) in California. During the spring the majority of these vagrants occur in late May and in June, a full month after the main peak for the normal western migrants. During the fall there is a tendency for these vagrants to occur late; however there are records of vagrants throughout the entire migration period. The occurrences of the eastern species of *Oporornis* and *Wilsonia* in California follow this pattern.

The following records are arranged from north to south for the spring and fall periods. I have checked into all of the sight records reported here, and feel that there is a minimum chance of error involved in their validity; most birds were seen by many observers, and at least one competent observer was involved in every sighting.

Kentucky Warbler. (*Oporornis formosus*). An adult male banded and photographed (slide deposited in San Diego Natural History Museum) on Point Loma, San Diego County, on 4 June 1968 by Alan Craig is the only record for California.

Connecticut Warbler. (*Oporornis agilis*). During the spring period one was collected on Southeast Farallon Island on 16 June 1958 (Bowman, Condor 62:410, 1960); one was seen there on 28 and 30 May 1965, and two were collected there on 22 June 1965 (Tenaza, Condor 69:579, 1967). An adult female was banded and photographed (slide deposited in San Diego Natural History Museum) on Point Loma, San Diego County, on 4 June 1968 by Virginia Coughran.

During the fall an immature was banded (wing length, 68 mm; tail length, 49 mm) on Southeast Farallon Island on 13 September 1968 by Henry Robert; one was seen there on 4 October 1968 by Richard Stallcup; one was seen at Pebble Beach, Monterey County, on 27 September 1964 by Vernal Yadon and Dr. Ronald Branson; and I collected an immature male (deposited in San Diego Natural History Museum) near Imperial Beach, San Diego County, on 27 September 1963.

Mourning Warbler. (*Oporornis philadelphia*). An adult female was collected (deposited in Museum of Vertebrate Zoology, Berkeley) at Deep Springs, Inyo