ADDITIONAL NOTES ON THE WHITE PELICAN COLONY AT STUM LAKE, BRITISH COLUMBIA

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Lies and Behle (Condor 68:287, 1966) report that data are lacking in 1964 for the White Pelican (*Pelecanus erythrorhynchos*) colony at Stum Lake, British Columbia. This colony was visited by D. Lorne Frost on 22 June 1964 and the following notes were recorded.

The pelican colony at Stum Lake is confined to two small sandy islands. Because of inclement weather only one island was inspected. This island was low, about two feet in height, and about 200 feet long and 75 feet wide at the widest point. The nests were shallow depressions in the sand, no nesting materials being used. A count showed 57 nests with one to three young each. The nestlings were naked, about 8 to 10 inches long, and incapable of walking. Another 25 nests contained one to two eggs, some of which were pipping. No dead young or adults were observed. This count indicates a breeding population of 164 adults for this island, a slight increase over 1963 data.

Also counted on this island were 14 Herring Gull (*Larus argentatus*) nests. Most nests contained well-incubated eggs, although a few small young were seen.

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A CASE OF GREAT HORNED OWL PREDATION ON A PORCUPINE

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On a small wooded island on the Clark Fork River near Missoula, Montana, I found a male Great Horned Owl (*Bubo virginianus*) which appeared to be severely injured. The owl was standing beneath some low shrubs and upon my approach it flapped its wings and grasped at objects spasmodically but could not fly. I killed the owl and found many porcupine quills protruding from its body.

The body contained 112 quills which were concentrated in the face region (56 quills), especially around the nares and bill. Some of these penetrated as deep as 15 mm. Four quills had completely penetrated the skin and extended into the mouth cavity. One of these pierced the chin, passed into the mouth cavity and became imbedded in the roof of the mouth to a depth of 8 mm. The inside of the mouth was infected and the owl could not have fed normally. Both eyes had been damaged by quills but the left eye appeared to be functional. The right eye had been destroyed by 16 quills and was infected.

Upon removing the skin the owl was found to be very thin, possibly near starvation. Several of the deeper wounds were infected.

The infected quills were compared with those of a porcupine skin. The quills found on the lower part of the body and feet of the owl were similar to those on the back and neck of the porcupine. The quills found in the neck and head of the owl appeared to be from the tail region of the porcupine.

Horned owl attacks on porcupines are probably not common. Eifrig (Auk 26:55, 1909) describes a Great Horned Owl after it had apparently attacked a porcupine. More than 56 quills were found throughout the body of the owl. Several were found in the sole of the right foot, under the right wing, in the breast, neck, and two in the left eyelid. Parkes (Wilson Bull. 62:213, 1950) described a female Great Horned Owl with a porcupine quill imbedded in its neck. Parkes believed the quill, judging from its size and shape, came from the porcupine's tail.

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BREEDING BEHAVIOR OF THE ANDEAN CONDOR (*VULTUR GRYPHUS*)

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On 29 March 1967 the mating of a pair of Andean Condors was observed and photographed in the Lincoln Park Zoo, Oklahoma City, Oklahoma. As photographs of this behavior have not been previously published, and as our observations differ on certain points from the published accounts, the following photographs and observations are submitted.

The mating occurred at 13:30 on a cloudy, warm day and lasted approximately two minutes from courtship display through postcopulatory behavior. The displaying male with wings outspread and neck inflated approached the female, who was crouching with her head lowered (fig. 1A). The female, still crouching, turned her back to the male, who immediately changed his position (fig. 1B) until he was displaying to her right side (fig. 1C). She was now completely hidden from view. With wings still outspread the male mounted, and the female lifted her head for the first time as a short period of mutual nibbling began (fig. 1D). The nibbling continued for a few seconds with the wings of the male dropping slightly (fig. 1E). The male flapped his wings and lowered his tail forward under the female who had lifted her tail, opened and lifted her wings slightly, and lowered her head (fig. 1F). She lowered her body until it touched the ground and began a moaning sound which continued throughout copulation. The male's tail was now extending further forward and slightly laterally, while his left wing was used in support. The male then dismounted and stood to the right of the still crouching female.

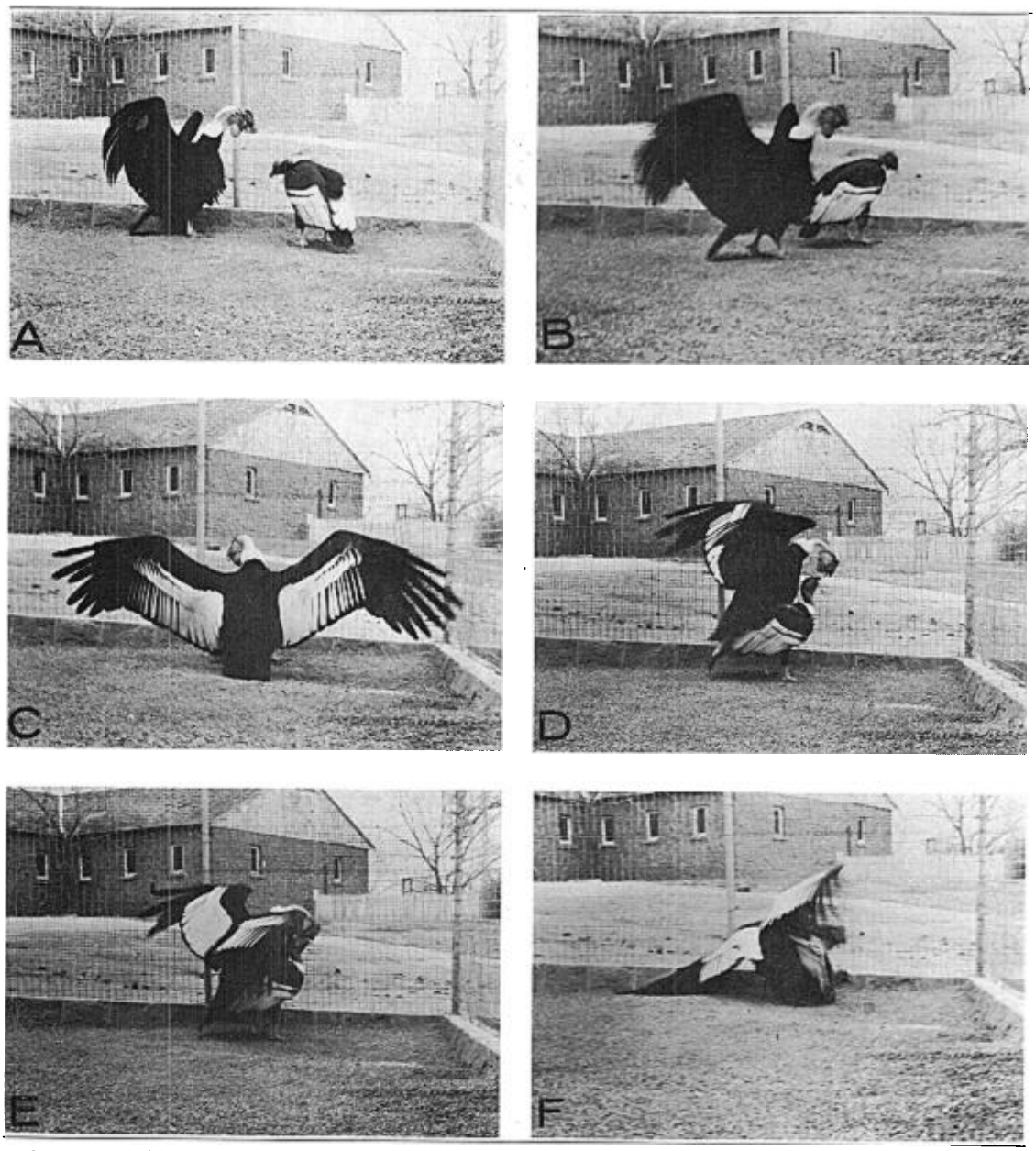

FIGURE 1. Photographs of Andean Condors in mating behavior: A. Displaying male approaching female. B. Male moving to side of female. C. Male displaying to right side of female (hidden). D. Nibbling while in mounted position. E. Nibbling continues. F. Male flapping wings and lowering tail as female raises tail and wings.

Nibbling now resumed and lasted for several seconds. One papershell egg was laid two weeks later but was destroyed by the male as he was apparently defending it from a zoo attendant.

The age of these birds is not known. The male has been in the Lincoln Park Zoo for ten years and the female for six years. No mating had been observed in the pair prior to this date. A pair of Andean Condors first bred at eight years of age in the San Diego Zoo (Lint, Zoonooz, 32(3):6, 1959).

Previous descriptions of the mating of *Vultur gryphus* in captivity include those of Poulsen (Z. Tierpsychol. 20:470, 1963), and Koford (The California Condor, 1953, p. 77–80), who reports on communications with Mrs. Belle J. Benchly and Ken Stott of the San Diego Zoo. Poulsen (p. 470–471) mentions pre-display behavior of the male as rubbing of the head and neck against various objects, picking up of small objects, and an increased aggressiveness toward the observer. The only behavior that we observed prior to the male's display was that he protruded his beak through the wire of the aviary and nibbled on a camera lens cap held by one of the observers, then immediately turned toward the female and began the display.

The posture of the displaying male differed slightly from previous descriptions. While Poulsen (p. 471) reports that the primaries are held approximately vertically and Koford (p. 77) describes the distal primaries as usually being held horizontally, this

male held the distal primaries at an angle of about 45 degrees (fig. 1A, B, C), a posture which Poulsen describes as being employed during sunning. Also, Poulsen (p. 471) describes the displaying male with his neck bent forward and downward with the bill almost touching his chest, and that in this posture the colored top of the head and back of the neck are demonstrated. The present male, however, displayed with his neck and head bent only slightly forward and not downward; thus at no time was the back of the neck visible to the female (fig. 1A, B, C). According to Koford (p. 80), the California Condor displays the ventral white wing patches to the female, and he speculates that since the white wing patches of the Andean Condor are dorsal, the back of this bird might be displayed to the partner. However, during the present observations the male did not at any time display his back to the female. After copulation the male did not resume his wing-spread display as described by Koford (p. 79–80), but rather resumed nibbling.

It appears that during these observations certain of the behaviors that occurred after the male mounted are those that Poulsen observed to occur before mounting. For example, the receptive posture of the female before the male mounts is described by Poulsen (p. 472) as being flattened with her head lowered, wings opened, and tail lifted; however, this female did not open her wings or lift her tail until after the male had mounted (fig. 1F). Perhaps correlated with this delay in the female's behavior, the male continued to display after he had mounted, a rare occurrence according to Poulsen's observations. Also, the mutual nibbling is reported by Poulsen (p. 471) to occur only before mounting, while here it occurred after mounting and again after copulation.

Both authors describe hissing and guttural clucking sounds produced by the displaying male, while they mention no sounds produced by the female. We heard no sounds from the male, although the female gave a low moaning sound during copulation.

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NEW AND ADDITIONAL RECORDS OF SOME PASSERINE BIRDS IN SOUTHERN NEVADA

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Field work in southern Nevada by the author during the past six years has added to our knowledge of the occurrence and distribution of birds in this area. Records of special interest are reported here. I wish to thank C. G. Hansen, biologist, Desert National Wildlife Range for access to his personal records and for donating specimens to the Biology Museum, Nevada Southern University, where the specimens mentioned are deposited. All records are for Clark County and of single birds unless noted otherwise.

Eastern Kingbird. *Tyrannus tyrannus.* Grater (Condor 41:221, 1939) reports the single previous record for southern Nevada. I observed one at Corn Creek, Desert National Wildlife Range on 3 September 1966.

Purple Martin. *Progne subis.* Gullion et al. (Condor 61:288, 1959) lists four records for southern Nevada. I have additional records for 29 April 1967, Davis Dam area; 2 September 1966, Henderson Slough; and five birds on 13 September 1966 at Logandale. Also, the remains of a male were found at Corn Creek in May 1964 by Hansen (B-964).

Varied Thrush. *Ixoreus naevius.* A male (B-543, testes small, no fat) was found dead by Hansen at the mouth of Hidden Forest Canyon, Sheep Mountains, on 4 November 1965. This supplements the record by Cottam (Condor 56:223, 1954) for the same area and the sight record for Boulder City (Monson, Audubon Field Notes 6:209, 1952).

Golden-crowned Kinglet. *Regulus satrapa.* I have records in addition to those of Pulich and Phillips (Condor 53:206, 1951), Monson (Audubon Field Notes 8:35, 1954), and Gullion et al. (op. cit., p. 291) of this rather rare visitant in southern Nevada: Kyle Canyon, 7200 feet, 28 January 1965 (four birds); Lee Canyon, 8500 feet, 6 October 1966 (two birds); Lee Canyon, 8000 feet, 26 October 1966 (three birds, one collected, B-714, male, testes minute, 5.4 g, moderate fat, skull ossified); and Lee Canyon, 8400 feet (two birds) and 8900 feet, 2 November 1966, all in the Spring Mountains.

Northern Shrike. *Lanius excubitor.* This species has not been previously reported for southern Nevada. I collected a female (B-705, ovary 8 × 2 mm, 66.0 g, light fat, skull incompletely ossified) at Henderson Slough (near Henderson) on 28 October 1966.

Tennessee Warbler. *Vermivora peregrina.* Two specimens (B-873, male, left testis 5 × 4 mm, moderate fat, skull ossified and B-872, female, ovary 4 × 1 mm, light fat, skull ossified) were taken at Corn Creek on 26 May 1965. These are the first Nevada records.

Nashville Warbler. *Vermivora ruficapilla.* There appear to be only four records of this species for southern Nevada (Linsdale, Pacific Coast Avifauna 23:106, 1936; Gullion et al., op. cit., p. 291; and Hayward et al., Brigham Young Univ. Sci. Bull., Biol. Series 3:20, 1963). I have eleven spring records between 16 April and 20 May and six fall records between 16 September and 10 October.

Grace's Warbler. *Dendroica graciae.* A single bird was seen near Deer Creek Canyon, 8000 feet, Spring Mountains on 10 June 1966. This supplements the records of Jaeger (Occ. Papers Riverside Jr. Coll., 2:7, 1927) for the same range and those of Johnson (Condor 67:113–114, 1965) for the Sheep Range.

Painted Redstart. *Setophaga picta.* In addition to the records given by Johnson (op. cit., p. 114) and Austin (Great Basin Naturalist 26:41–42, 1966), I have a sight record for 4 September 1966, 1.5 miles west of Logandale. This is the first fall record for Nevada.

Summer Tanager. *Piranga rubra.* This species breeds along the Colorado River in the southern part of Clark County (Linsdale, Condor 53:244, 1951; Gullion et al., op. cit., p. 293). In addition, I have a record for Pine Creek Canyon, at the eastern base of the Spring Mountains about 20 miles west of Las Vegas (B-536, male, left testis 11 × 9 mm, 35.5 g, light fat). Especially noteworthy is one seen in my backyard in Las Vegas on 4 December 1966.

Indigo Bunting. *Passerina cyanea.* I have additional records of this rare visitant for 25 May 1965,