

SOME UNUSUAL RECORDS FOR
THE PEREGRINE AND PALLID
FALCONS IN SOUTH AMERICA

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Migrant North American Peregrine Falcons (*Falco peregrinus*) are known to winter in northern South America (Brown and Amadon 1968:852) and Chilean Peregrine Falcons are known to breed as far north as the Atacama province of Chile (Johnson 1967:412). No breeding records for this species in Central America or in northern or central South America have been published (but see Jenny et al., in press). Gochfeld (1977) reported a pair of peregrines attending a cliff in the Chanchamayo Valley, Peru, and Murphy (1936:307) saw peregrines on El Muerto Island, Peru, but neither observed evidence of breeding.

On 25 March 1979 we observed a pair of adult Peregrine Falcons attending a cliff near Tacna in southern Peru (17° S, 70° W). The cliff is in the lower reaches of the Andean foothills (elevation ca. 1,850 m) in an extremely dry zone (rainfall less than 1 cm/year [Peruvian Agrometeorological and Hydrological Service 1965]). Excepting a scattered string of brushy legumes along a nearby wash, the area was almost devoid of higher plants.

Our observation began when we noted the larger bird (presumably the female) perched in a natural cavity about 20 m up on a 23-25 m cliff. The falcon remained in the cavity until one observer was within 30 m, then called several times and flushed. The falcon, periodically calling, passed back and forth across the cliff near the rock cavity for about two minutes. Whereupon she and her presumed mate flew over the cliff rim and were lost to view. The smaller bird (presumably the male) appeared soon after the female was aloft, raced back and forth along the cliff front near the female, and also called.

After the pair left the area we climbed the cliff to a point 5 m above the cavity and approximately 15 m from it. We were able to see and photograph the contents of the nest. The crumbling nature of the rock prohibited entry. The cavity (ca. 0.9 m broad and 0.5 m high at the lip) contained no eggs or young, which would have positively documented breeding; however, the walls, floor, and lip of the cavity were whitened with excretory wastes. We concluded that the cavity was a probable Peregrine Falcon eyrie from the following evidence: (1) we recovered 19 molted peregrine feathers (9 of which were adult) from the cliff base near the eyrie, (2) we found no feathers of other raptors in the area, (3) prey remains suggested that bird-eating raptors had long occupied the site, (4) there was no stick nest in the spacious cavity (hence sympatric diurnal raptors were not suggested), and (5) the excrement in the cavity suggested that the site had been occupied by nestlings. Adult falcons do not expel wastes horizontally as do the adults and young of many other raptors and young falcons. Adult falcons drop wastes vertically, thereby creating long whitewash streaks below their perches. The whitewash below several perches along the cliff and at the lip of the cavity suggested



FIGURE 1. Juvenile Pallid Falcon showing unique flank barring and light feather edges on dorsal surface. This is the first published photograph of the species in the wild.

adult falcon excrement while that on the floor and wall of the cavity was probably deposited by nestlings.

This observation, together with the recent record for Ecuador (Jenny et al., in press), suggest that the Peregrine Falcon nests over an extensive area in northern and western South America. Considering the size of that land mass and the nearly cosmopolitan distribution of the Peregrine Falcon, it should come as no surprise that peregrines breed in northwestern South America. It is more surprising that breeding birds have gone undetected so long.

The Pallid Falcon (*Falco kreyenborgi*) is known to science from five specimens (Stresemann and Amadon 1963) and a few sight records. Recent searches during the breeding season have failed to find the bird (Walker et al. 1973, C. M. Anderson pers. comm.). The most recent published observation was for 11 May 1975 (Jehl and Rumboll 1976).

We saw at least two Pallid Falcons along the open moorlands of the northeastern coast of Isla Grande, Tierra del Fuego (68° W, 53° S). On 10 March 1979 a juvenile in fresh fall plumage was observed from as close as 12 m. The bird perched on posts (Fig. 1) and made shallow passes at a nearby fox (probably *Dusicyon culpaeus*) before feeding on the carcass of a large gull (probably *Larus* sp.). Only 30 km away on the same day we observed an adult perched on a fence post with small passerine prey (estimated weight ca. 30 gm). After about two minutes the bird flew seaward and was lost to view flying parallel to the coast. Two days later Glinski saw an adult (perhaps the same bird) along the coast less than 1 km from the previous site. The bird was about 35 m overhead for one or two minutes before it drifted downwind along the coast.

In all three observations, we noted the pale tail bars, narrow moustache stripe, large size, and pale underparts which distinguish this species from sympatric falcons. The juvenile was distinguished from the adult by having feet and cere, but not eye ring, yellow, having more rufous or rust on dorsum, and having a light brownish wash on the belly and flanks.

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APPARENT REPLACEMENT CLUTCH LAID BY WILD CALIFORNIA CONDOR

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Current proposals for the management of the endangered California Condor (*Gymnogyps californianus*) suggest "double-clutching" (removal of the first clutch to induce laying of another in the same season) as a potential technique for increasing the productivity of the existing population (Ricklefs 1978, Anon. 1979). However, Koford (1953) stated that for "free-living California Condors, the laying of a second egg after the first is taken is unknown."

The assumption that California Condors will lay more than one clutch during a single breeding season appears to be based largely upon the presumed laying history of a captive condor in the United States National Zoo in Washington, D.C. According to Koford (1953), that female was thought to have produced a second egg 33 days after the first was found broken in one year. In another season a second egg was found 41 days after the first was discovered and evidently removed from the cage. More recent examination of the National Zoo records, however, revealed the possibility that more than one condor was probably responsible for the 18 or more eggs produced there between 1919 and 1939 (Wilbur 1978 and pers. comm.), and the matter cannot be satisfactorily resolved now.

The Western Foundation of Vertebrate Zoology collection contains a California Condor egg (WVZ #79,767) that was collected on 16 March 1939 from a nest site near Santa Paula, Ventura County, California by Martin C. Badger, a local collector who took at least five eggs from the same site between 1916 and 1943 (Badger notes at WVZ). The existence of the 1939

specimen was not generally known until after Badger's death in the early 1970's. It is accompanied by 8 mm movie film footage which documents the actual collecting episode. The nest site, a small cave near the top of a sheer cliff, is shown clearly in the film.

On 30 September 1939 Carl Koford visited the same nest site with Sidney Peyton and found that the cavity contained a nestling condor (Koford notes). One of us (E. N. H.) visited the nest with Koford on five separate dates between 5 October and 4 November 1939 in order to make a photographic record of the development of the young condor. The nestling was banded on 17 October by Koford and E. N. H. It was last seen and photographed on 4 November, when it still had not left the nest (Fig. 1). When the nest site was visited by Koford on 13 December 1939, it was empty. The young bird was later found dead near the nest (letter from C. Hooper to F. C. Sibley, 12 February 1967), and its skeleton is preserved at the Museum of Vertebrate Zoology in Berkeley (MVZ #120,358).

Because of the great fidelity that individual condors apparently have for specific nest sites and because of the generally retarded development of the Santa Paula nestling, we feel that it is likely that it hatched from a replacement clutch. At two other condor nests under observation by Koford and E. N. H. in 1939, the young left their nest cavities by late September, and one was capable of flight by early November when the Santa Paula bird was still in the nest (Koford notes).

Replacement clutches have been reported frequently for other cathartid vultures, including captive Andean Condors (*Vultur gryphus*) at the London Zoo in the 1840's (Olivares 1963), Amsterdam Zoo (Dekker 1967), San Diego Zoo (Lint 1960), Oklahoma City Zoo (J. C. Snelling pers. comm. to S. Wilbur), Patuxent Wildlife Research Center, Laurel, Maryland (Anon. 1979), and Bronx Zoo (Ricklefs 1978). A single female in the latter collection produced three fertile clutches in 1978. A King Vulture (*Sarcoramphus papa*) laid a replacement clutch at the Naples Zoo (Cuneo 1968), and apparent replacement clutches have been reported for wild Turkey Vultures (*Cathartes aura*) by Mas-