

LETTERS

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FIRST BREEDING RECORD FOR *FALCO PEREGRINUS* IN URBAN LIMA, PERU, WITH REMARKS ON THE PERUVIAN BREEDING POPULATION

The Peregrine Falcon (*Falco peregrinus*) breeds on every continent except Antarctica, but is absent from large parts of some continents where they occur (most of Amazonia, Saharan regions of North Africa, and central China) and most islands of the Pacific Ocean. In South America the breeding distribution is incompletely known. Through the 1970s, the recorded breeding range for South American peregrines was thought to be from the southern tip of South America north to about 30–35°S (slightly north of Santiago, Chile) with densest known populations in extreme southern Chile, Argentina, and Falkland (Malvinas) Islands (Stresemann and Amadon 1979, Order Falconiformes. Pages 271–425 in E. Mayr and G.W. Cottrell [Eds.], Check-list of birds of the world, Vol. 1, 2nd Ed. *Mus. Comp. Zool.*, Cambridge, MA U.S.A.; Cade 1982, *Falcons of the world*. Comstock, Cornell Univ. Press, Ithaca, NY U.S.A.; and McNutt et al. 1988, Distribution and status of the Peregrine Falcon in South America. Pages 237–253 in T.J. Cade, J.H. Enderson, C.G. Thelander, and C.M. White [Eds.], *Peregrine Falcon populations: their management and recovery*. The Peregrine Fund, Inc., Boise, ID U.S.A). Based on a pair at a cliff near Yauli, Peru, (3400 m elevation) on 10 September, a date prior to the arrival of Nearctic migrant peregrines, breeding was suggested (Morrison 1939, *Ibis* 81:453–486), then circumstantial evidence of breeding was found on a cliff ledge in 1979 near Tacna, Peru (Ellis and Glinkski 1980, *Condor* 82:350–351), and later breeding in Peru was confirmed (Schoonmaker et al. 1985, *Condor* 87 423–424) as it was also confirmed into Ecuador (Jenny et al. 1981, *Condor* 83:387). Therefore, the map of breeding distribution in South America was radically changed by McNutt et al. (1988), so that rather than distribution stopping at about 30–35°S as in most map renditions, the distribution was extended northward along South America west of the Andes Mountains into Ecuador to a latitude near the equator. In fact, in Ecuador, peregrines had been found breeding at Yanayacu as early as 1877, but the record lay hidden in the literature (White 1989, *Condor* 91:995–997). The number of known breeding locations in Peru has increased in the past two decades, perhaps because of a greater search effort, but also there may have been a numerical increase in falcons (Kéry 2002, *J. Raptor Res.* 36:213–217), there are no data to suggest that the South American (Peruvian) populations were reduced or significantly negatively affected by synthetic chemicals (e.g., DDT) (Walker et al. 1973, *Antarctic J.* 8:29–31) as they were in North America.

In addition to local breeders, high number of migrant non-breeding Nearctic peregrines from both the tundra (*F. p. tundrius*) and boreal forests (*F. p. anatum*) occur throughout South America, especially along coastal regions and in large populated urban regions during austral spring and summer months (Albuquerque 1978, *Rev. Bras. Biol.* 38: 727–737; Risebrough et al. 1990, *Rev. Bras. Biol.* 50:563–574; Silva e Silva 1996, *Pap. Avulsos Zool., São Paulo* 39:249–270; and Silva e Silva 1997, *Ararajuba* 5:203–208). While there is extensive use of cities by peregrines they do not remain to breed there. Elsewhere, however, peregrines bred occasionally in urban areas of Europe, North America, Australia, and Africa before organochlorine pesticides became extensively used (Cade et al. 1988, *Peregrine Falcon populations: their management and recovery*. The Peregrine Fund, Inc., Boise, ID U.S.A.; and Cade et al. 1996, *Peregrine Falcons in urban North America*. Pages 3–13 in D. Bird, D. Varland, and J. Negro [Eds.], *Raptors in human landscapes*. Academic Press, New York, NY U.S.A). In South America the only previously-known, urban breeder was a pair nesting at a church in the center of Córdoba city, Argentina, in 1981–82 (R. Stranek pers. comm., C. White pers. observ.).

With the banning of DDT in the Northern Hemisphere, and as peregrines began to increase there, they invaded urban regions with increasing frequency largely as a result of the release of captive-bred birds which apparently recognized cities as appropriate breeding locations, perhaps related to their early captive experiences (Cade et al. 1996, D. Rockenbauch 1998, *Der Wanderfalke in Deutschland*. Verlag Christine Hölzinger, Ludwigsburg, Germany). But also the invasion into urban environments began to occur, for whatever reason, in regions where peregrines were not reduced by pesticides and where captive-bred birds were not released, such as in most urban centers in Australia (P. Olsen pers. comm.), and our Peruvian nesting fits that pattern.

Today, resident peregrines are not uncommon in coastal Peru, and they are also observed in interior Peru. While increasing numbers of falcons are sighted during the Austral winter, sightings which exclude wintering non-breeding Nearctic peregrines are also more frequent. For example, in river valleys of central coastal Peru, three pairs were found with nestlings in July 1993. Two pairs produced four young each and a third had three fledglings on 18 July

(*O. Beingolea* pers. observ.). In July 1994, two of these pairs raised four young each. A third site inhabited by a pair was not visited. Although large portions of the Peruvian Andes have not been searched, it is likely that the finding of these pairs suggests that the breeding range for peregrines occurs along the entire Andean chain into central Ecuador. It is not known if they extend along the Andes beyond Ecuador or into the Cordillera Central and Oriental of Colombia and Cordillera de Merida of Venezuela; these areas have been extensively surveyed by ornithologists and it appears doubtful.

With this increase, peregrines have moved into urban Lima city. In the first week of June 2001, Beingolea was told about a pair of hawks that were excreting on the walls of the skyroom of the abandoned 20-floor, former Hotel Crillon in downtown Lima. Beingolea visited the building and confirmed the presence of a female peregrine beside a cavity, caused by the removal of a large cement block on the upperside of a window's roof, just below the hotel's 20th floor skyroom.

On 2 July 2001, Beingolea visited the building again and found a male peregrine incubating a single egg; the female was nearby eating a Rock Dove (*Columba livia*). On 8 August, he visited the building and found one eggshell but could not assess the number of eggs or nestlings, but on 14 August there were three nestlings about 5–7 d old. On 14 September one young was found dead, possibly due to a *Trichomonas* infection; the other two seemed healthy. Three more pairs were regularly sighted in Lima along with other territorial single individuals during the Austral winter 2001. The sighting of an immature inside Lima during late August 2000 (J. Otero pers. comm.) suggested that in fact they were already breeding inside urban Lima city before our observations.

Finally, Beingolea found fledglings between 18 July and late September indicating about a 10 wk span of egg laying for pairs nesting at 12°S. Calculating that fledgling occurs between 11 and 12 wk after onset of eggs (Cade 1988), the earliest laying for the pair having fledglings in 18 July should have taken place during the last week of April (1993) and the latest lying during the first week of July (2001). In 2001, there were a total of six resident pairs within Lima and her outskirts.

It is generally thought that subtropical raptors regularly have smaller clutches than populations elsewhere (Newton 1979, Population ecology of raptors. Buteo Books, Vermillion, SD U.S.A.), but the Peruvian nests checked averaged 3.71 young/pair, at the high end of peregrine fledging numbers. A failed attempt, due to predation, also had four eggs, further suggesting that large clutch sizes are common.

The breeding season for Peruvian peregrines differs from those in central to southern Chile and Argentina; the latter breed in the Austral spring, but central Peruvian peregrines nest during the Austral fall and winter. Distance and different breeding seasons might restrict gene flow between these populations. Lack of gene flow and different climatic and environmental selection pressures probably explains the morphological differences. Northern birds are paler, less heavily marked on the breasts and smaller, about 800 g for northern and 950 g for southern females and about 550 g for northern males (with one at 480 g) and 650 g for southern males (O. Beingolea unpubl. data, see White 1989). Further studies on the geographic differences within South American populations are needed.

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LONE HARRIS'S HAWK KILLS GREAT BLUE HERON

The Harris's Hawk (*Parabuteo unicinctus*) is a neotropical species whose range extends into the southwest U.S., resident from southeast California (Colorado River area; irregularly), south and central Arizona, to southwest and south Texas (Bednarz 1995, *In* A. Poole and F. Gill [Eds.], *The birds of North America*, No. 146. The Academy of Natural Sciences, Philadelphia, PA and The American Ornithologists' Union, Washington, DC, U.S.A.). In New Mex-