## PELICANS IN THE CITY OF LIMA, PERU

CHARLES F. LECK

Department of Zoology Rutgers University New Brunswick, New Jersey 08903

The coast of Peru is inordinately rich in species and numbers of seabirds. The birds, including the Peruvian Pelican (Pelecanus thagus), are dependent in their diets on an abundance of coastal anchovies (Engraulis ringens), characteristic of the cool nutrientrich Humboldt Current. During most austral summers a warm counter-current, El Niño, invades from the equator toward northern Peru and causes vast losses of sealife, including the birds in the food-chains (Murphy, Oceanic birds of South America, Vol. 1, MacMillan Co., New York, 1936). This year (1972) El Niño was much more extensive than usual in its southern expansion (believed to occur in 7-year cycles). and concomitantly there was a complete destruction or disappearance of the normal planktonic life and small fishes. The counter-current remained through the austral winter and seabirds must have perished by the hundreds of thousands as noted in other abnormal years (O.A.S., The Guano Islands of Peru, Pan American Union, Washington, D.C., 1954). During August 1972 I made repeated observations along and off the coast of Lima, noting great numbers of weak and starving pelicans, cormorants (three species), boobies, and other pelagic birds. Skuas (Catharacta skua) fed on individuals that had already died.

extensively in the region of Lima, with cormorants invading inland pastures (Dorst, South America, Random House, New York, 1967) and groups of pelicans constantly flying about the city. Since it was an extreme year, the pelican invasion was impressive and it received considerable attention. Typical problems created by the influx of birds are summarized briefly below.

A power blackout for an entire district of Lima

A power blackout for an entire district of Lima was caused by pelicans roosting on high-tension cables ("Ultima Hora," 5 August). Downtown traffic was disrupted by the night-roosting of pelicans along city roadways. Piers or ships handling fish cargo were mobbed by hundreds of dying pelicans ("Ultima Hora," 1 August). Buildings were defaced by groups of roosting pelicans. A variety of similar events were reported in the local news media through the month, as many visitors inquired about this avian anomaly.

It is noteworthy that the thousands of ill-fated seabirds were all concentrated about the environs of metropolitan Lima and the port district of Callao; almost no pelicans were observed on miles of coast north or south of the city. The attraction of the port is undoubtedly the various fishing industries with their concomitant fish scraps, albeit limited because of the poor year. The attraction of the city proper is more difficult to evaluate, although pelicans were observed at concentrations of refuse, and they reportedly took waste food. The Brown Pelican (Pelecanus occidentalis) is known to scavenge (Palmer [ed.], Handbook of North American birds, Yale Univ. Press, New Haven, 1962), and the urban behavior of the Peruvian Pelicans may simply be an extreme modification of foraging in a year of famine.

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## SOME BIRDS OF ISLA PUNTA ARENAS, PACIFIC COAST, COLOMBIA

With such total lack of food, the seabirds wandered

CAROL PEARSON RALPH

AND

STEPHEN J. CHAPLIN<sup>1</sup>

Departamento de Biología Universidad del Valle Cali, Colombia, South America

Although general distributions of birds on the Pacific Coast of Colombia are known (R. Meyer de Schauensee, A guide to the birds of South America, Livingston Publ., Wynnewood, Pa., 1970), there are no lists of the species that may be commonly found in a specific habitat. During a year spent in Cali, Colombia, where we netted and observed birds, we made several brief excursions to the Buenaventura area on the Pacific Coast. Disturbed vegetation is increasingly widespread in this area due to lumbering and general development. A listing of the common birds in this habitat, in such an area of potential ornithological interest, may be useful. We compiled the list that follows during 7 days of observation, 24-29, 31 March 1971 on Isla Punta Arenas. The list includes the Dwarf Cuckoo (Coccyzus pumilus), which is well outside its reported range, and a number

of North American migrants, including the Common Yellowthroat (*Geothlypis trichas*), which is recorded as casual in Colombia (R. Meyer de Schauensee, op. cit.).

Isla Punta Arenas is a private island in the Buenaventura bay, separated from the mainland by a channel 100 m wide. Mangroves (abbreviated Ma in the following list) and coconut plantations (abbreviated C), both of which are flooded at high tide, cover about 140 ha of the total 240 ha (593 acres). In places the mangroves exceed 10 m in height, making them the tallest vegetation on the island. A tangled second growth (abbreviated SG) about 5 m tall covers most of the upland part of the island, which reaches about 20 m altitude. A few taller trees emerge above the general canopy. About 30 ha of the high ground is grassy pasture sprinkled with shrubby melastomes and ferns (abbreviated P). In the cleared section is a 0.5-ha artificial freshwater lake (abbreviated L) with a few clumps of bamboo on its shores. Caymans and some large fish live in the lake. About 20 cattle graze the pasture. Extensive mudflats and sandbars (abbreviated Mu) surround the island, extending out about 400 m during low tide. Some birds were seen only on the bay (abbreviated B).

The Buenaventura area is classified in the Hold-ridge system as Pluvial Tropical Forest, since it has a mean annual rainfall of 8.34 m and the average temperature is about 27°C (L. S. Espinal, Visión ecológica del Departamento del Valle del Cauca, Universidad del Valle, Cali, 1968). However, during

<sup>&</sup>lt;sup>1</sup> Present address: Department of Entomology, Comstock Hall, Cornell University, Ithaca, New York 14850.