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Breeding Observations of the Peruvian Tern in Chile

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Abstract.—The Peruvian Tern (*Sterna lorata*) is endemic to the Humboldt Current, and in Chile is considered endangered. Current information about its biology and the status of its populations is scarce. I describe a reproductive colony near Mejillones along the coast of northern Chile. From 13 days of observation during September, October, and December 1996 I estimated 40-50 pairs of terns present. Breeding activity may extend from mid August to February. Breeding chronology was asynchronous among pairs of terns. A Crested Caracara (*Polyborus plancus*) killed a fledgling tern. Received 14 August 1997, accepted 20 February 1998.

Resumen.—El gaviotín chico (*Sterna lorata*) es endémico de la Corriente de Humboldt y en Chile está considerado como en peligro de extinción. El conocimiento actual sobre su biología y del estatus de sus poblaciones es escaso. Yo describo una colonia reproductiva cerca de Mejillones, en la costa del norte de Chile. Por medio de 13 días de observación durante Septiembre, Octubre y Diciembre de 1996, se estimó la presencia de unas 40 o 50 parejas. La actividad reproductiva podría extenderse desde mediados de Mayo hasta Febrero. La actividad reproductiva de las parejas de gaviotines fue asincrónica. Un carancho (*Polyborus plancus*) fue observado capturando un volantón de estos gaviotines.

Key words.—*Sterna lorata*, Peruvian Tern, breeding, Humboldt Current, conservation.

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The Peruvian Tern (*Sterna lorata*), endemic to the Humboldt Current, ranges from the Gulf of Guayaquil in Ecuador to Antofagasta, Chile. It nests in colonies or solitarily on dunes or rocky plateaus near the shore up to 1000 m inland. It is thought to reproduce between the months of October and January. The species population is estimated at 5,000 individuals (Goodall *et al.* 1951; Schlatter 1984; Harrison 1985; del Hoyo *et al.* 1996).

Although the Peruvian Tern is resident in Chile, there is little information about its biology or the status of its population, and it is considered endangered (Glade 1993). According to Goodall *et al.* (1951) there are nesting sites on the coast of Arica and to the South of Iquique. Recently, Gonzalez (1990) and Rottmann and Gonzalez (1991) observed adults with chicks in the dunes close to Rinconada beach, north of Antofagasta. Carlos G. Guerra (pers. comm. to Augustin Iriarte) reported the existence of at least three breeding colonies on the coastal plateau of Mejillones (23°06'S, 70°28'W), although the exact locations of these colonies were not specified.

My objective was to find colonies of Peruvian tern in the Mejillones area and determine their reproductive status.

METHODS

I visited the study area three times during September-December of 1996. The study periods were 23-27 September, 28-31 October and 7-10 December. At each visit, I paid special attention to areas where terns had previously been sighted.

To determine the presence and abundance of the Peruvian Tern off shore, I conducted instantaneous censuses from fixed points along the Bahía de Mejillones coastline with the aid of binoculars.

The plateau adjacent to the coastline was searched for evidence of reproductive colonies, such as the presence of adults, juveniles, fledglings, chicks and eggs. The area was examined during both day and night. Colony size was estimated by simultaneous census, carried out by two researchers conducting linear transects through selected areas of the colony (Bibby *et al.* 1992) where high densities of flying adults were observed.

RESULTS AND DISCUSSION

During the three field studies, terns were seen feeding along the coastline. The maximum number of individuals sighted from the fixed points during each study period was two, seven and six, respectively. Only one

colony of *Sterna lorata* was found, ranging from about five km north of the city of Mejillones to approximately 500 to 1,000 m from Punta Chacaya, and from the shoreline inland to about 500 to 1,000 m from the highway (Fig. 1). The colony was active during the three field visits, although activity was not uniform throughout the colony. Activity concentrated in areas of sandy domes (low, gently sloping hillocks), with small stones up to four cm in diameter and calcareous remains of bivalves and gastropod mollusks. The colony size was estimated to be 40 to 50 couples determined by the simultaneous census, carried out by two researchers walking linear transects through the colony.

A maximum of five adults in flight were sighted at the same time during the first field study period. Pairs of terns on the ground were seen on six occasions, in postures indicative of incubation or protection of their young. The presence of adults with fish in their beaks indicated that reproduction had

begun. On 25 of September a half-grown chick was found, although the color of its feathers and its tendency to freeze made it hard to observe. The parents left the chick when the area was approached, and on repeated occasions landed at different sites to mislead the observer.

During the October study period a maximum of ten birds were seen flying, two of them carrying fish. They were very aggressive, and dived over the observers. Fledglings were observed for the first time. A nest with an egg was observed on 30 October. The nest was a small cup built into the slope of a sand dome. The egg, measuring about 2.5 cm, was pale blue with brown green specks similar to the coloring of the substrate. The nest was visited again on 31 October, the nest and egg were found unattended, with no adults present. During the December visit we saw a maximum of eight terns flying; five were adults and three were juveniles. When visited again, the earlier nest site was empty and no activity was observed around it.

Reproduction appears to be asynchronous, as couples with fledglings were observed at the same time as incubating couples. Assuming a 22 day incubation period, the observed reproductive phenology suggests that reproduction may have started during mid-August, explaining the presence of a half-grown chick during the last days of September. Although reproduction is asynchronous, there is probably a peak around November, explaining the sighting of juveniles with their parents. Although the end of the reproductive season could not be determined during the study, I estimate that activity continued until the end of January or even mid-February, as there were still eggs at the end of October.

We saw three species of raptors in the colony. Turkey Vultures (*Coragyps atratus*) frequently flew over the area, a Peregrine Falcon (*Falco peregrinus*) was seen over the colony in December, and Crested Caracara (*Polyborus plancus*) were seen three times perched in the colony range. During October, we disturbed a fledgling which took off and was captured by a Crested Caracara when it landed. The Caracara flew away with

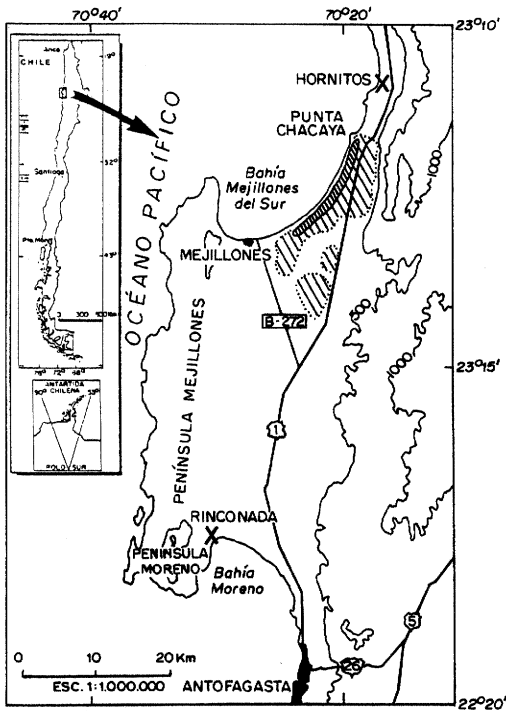


Figure 1. Map of the study area with breeding colony location. The dotted circle represents the study area, the area with diagonal line represents the existing colony found during this study, and the Xs represent other possible colony sites.

the tern in its talons, and was followed and attacked by several adult terns.

The occurrence of terns at other bays was unclear. Peruvian Terns were observed flying inland with fish in their beaks at Hornitos beach, suggesting the existence of another reproductive colony, but ground searches did not turn up the colony. I also saw adults feeding in the adjacent waters off the La Rinconada area, where Rottmann and Gonzalez (1991) observed nestlings and mature birds with fish.

In Chile, the only known colonies are at Mejillones and probably at La Rinconada and Hornitos. In Perú, only three colonies have been found, one south of Lima and two others in the National Reserve at Paracas (Battistini, personal communication). The present of fledglings and juveniles in a colony of 40-50 breeding pairs on the Mejillones plateau suggests that this is an important colony, both from a national and international point of view, for this little-known seabird.

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