

# FIRST RECORD OF THE ENDANGERED PERUVIAN DIVING PETREL *PELECANOIDES GARNOTII* BREEDING ON CORCOVADO ISLAND, PERU

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The Peruvian Diving Petrel *Pelecanoides garnotii* is an endemic species of the Humboldt Current. Its known distribution (Murphy 1936, Harrison 1985, Carboneras 1992) is restricted to the coasts of Peru and of northern-central Chile, from Lobos de Tierra Island (6°S) to Corral Island (37°S).

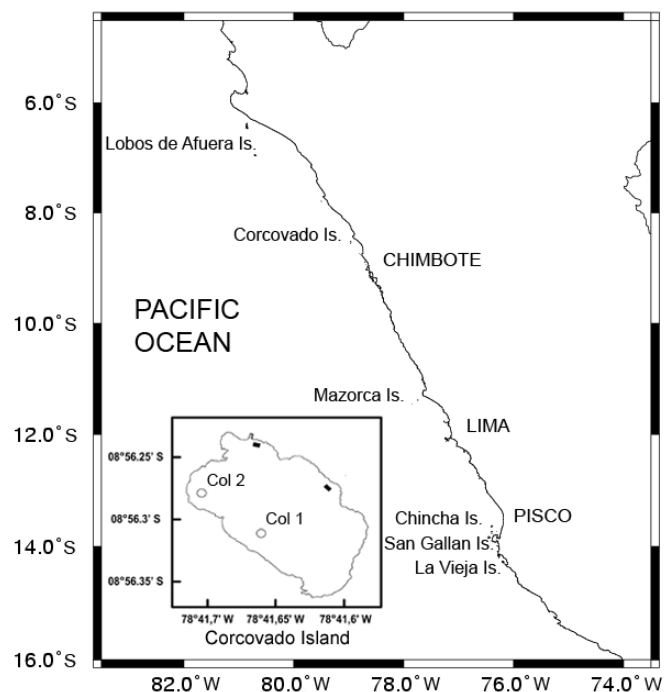
In the mid-19th century, the species occurred in large colonies on the Chincha Islands and other islands along the Peruvian central coast (Murphy 1936). Furthermore, colonies were also known to exist on Lobos de Tierra, Macabí, Guañape, Pescadores, and Ballestas islands (Murphy 1936). Breeding areas were reported on Lobos de Afuera, San Gallán, La Vieja, Chincha Norte, and Mazorca islands (Galarza 1968, Tovar 1978, Duffy *et al.* 1984). However, no recent evidence of breeding exists in most of these places, with the exception of La Vieja and San Gallán (Hays 1989, Jahncke & Goya 1998a). Jahncke and Goya estimated a total population of 12 216 breeding pairs on San Gallán and La Vieja Islands, the last two known colonies of this species in Peru. Small colonies have been reported on Pan de Azúcar and Choros islands and more recently on Grande and Pajaros islands in Chile (Simeone *et al.* 2003). The Peruvian Diving Petrel is considered to be Endangered (BirdLife International 2006) and Threatened under Peruvian legislation.

On 21 March 2005, I visited Corcovado Island (8°56'S 78°42'W), a 0.038-km<sup>2</sup> island located 20 km northwest of Chimbote. There I found two small colonies of Peruvian Diving Petrels (Fig. 1). One colony of three active nests containing vocalizing adults was situated on the top of the island, and a second colony containing seven active nests was found in the western part of the island. A third area with abundant footprints attributed to diving petrels but with no nests was also found. An adult pair (without brood patches) was captured in one of the active nests; the masses of these birds were 201 g and 213 g. The remains of at least two eggs were found inside the nest. Another nest contained an incubating adult with an egg having a mass of 32 g. The characteristic whistling from a chick was heard in yet another burrow. All active burrows were numbered.

Peruvian Diving Petrels on Corcovado Island breed in rock crevices formed as a result of rockslides and landslides. Rocks were about 70" 50" 40 cm. Five nests had a mean entrance size of 13.8 ± 9.2 cm (range: 7–30 cm) by 13.8 ± 2.7 cm (range: 11–18 cm). The mean minimum depth of the crevice was 90 ± 49.5 cm (range: 30–150 cm). Tovar (1978) indicated that nest entrances on saltpeter surfaces were 7–10 cm in diameter. Jahncke & Goya (1998b) indicated an entrance average of 14.3" 10.4 cm and a burrow length of 68.6 cm (range: 33–132 cm) in saltpeter, and an entrance average of 15.5" 9.1 cm and a burrow length of 95.6 cm (range: 41–170 cm) in sand. The differences between published nest dimensions and those recorded in

the present study are probably attributable to the unusual substratum used by diving petrels on Corcovado.

Murphy (1936) indicated that Peruvian Diving Petrels no longer bred commonly on low-lying islands because of the extraction of guano and that they were restricted to those few islands where the presence of sand and soil allowed for burrowing. The present study adds a new breeding substratum to those previously reported. Peruvian Diving Petrel populations were abundant in the past and declined because of habitat destruction as a consequence of guano removal that eliminated the nesting substratum and because of poaching by guano workers and fishers (Murphy 1936, Jahncke & Goya 1998a, Schlatter & Simeone 1999). Araya & Todd (1987) mention the decline during the 1940s of Peruvian Diving Petrel numbers at the Chañaral Islands, Chile, caused by the introduction of foxes *Pseudalopex* sp. Overfishing of anchovy *Engraulis ringens* has also been mentioned as possibly having affected its populations (Hays 1989), although Jahncke *et al.* (1999) have demonstrated that this species feeds mainly on zooplankton.



**Fig. 1.** Breeding localities of Peruvian Diving Petrel *Pelecanoides garnotii*: Corcovado, San Gallán and La Vieja islands in Peru.

On Corcovado Island, no guano extraction has been carried out for at least 20 years because of its relatively small seabird breeding populations and its rugged nature, which limits access. Reduced human disturbance on Corcovado Island may have promoted the presence of diving petrels and other marine species (e.g. Wedge-rumped Storm-Petrel *Oceanodroma tethys kelsalli* [Ayala *et al.* 2004]), where seabirds are not using their most common nesting substrata (guano, soil, salt layer) but the one now available (rock crevices). The presence of breeding Peruvian Diving Petrels on Corcovado Island in March coincides with the first annual reproductive peak that occurs between December and March (Tovar 1978, Jahncke & Goya 1998b).

These observations extend the current breeding distribution of the species c. 700 km north of La Vieja Island, its main breeding centre. Nearby islands with similar characteristics should now be surveyed for signs of breeding Peruvian Diving Petrels.

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