

## TWO NEW BREEDING LOCALITIES FOR THE WEDGE-RUMPED STORM PETREL *OCEANODROMA TETHYS KELSALLI* IN PERU

LILIANA AYALA<sup>1,2</sup>, CARLOS MENDOZA<sup>3</sup> & JOSE PEREZ<sup>3</sup>

<sup>1</sup>*Facultad de Ciencias Naturales y Matemáticas, Universidad Nacional Federico Villarreal, Perú (lilianayala\_ayala@yahoo.com)*

<sup>2</sup>*Current address: Jr. Independencia 667 Urb. Pando, Lima 32, Perú*

<sup>3</sup>*Museo de Historia Natural, Universidad Nacional Mayor de San Marcos Perú, Av. Arenales 1256, Lima 11, Perú*

Received 24 November 2003, accepted 19 February 2004

The Wedge-rumped Storm Petrel *Oceanodroma tethys* is native to the eastern Pacific Ocean (Harrison 1983, Carboneras 1992). Two subspecies are recognized, *O. t. tethys*, which breeds in the Galapagos Islands, and the much lesser known *O. t. kelsalli*, which breeds on islands off the coast of Peru (Murphy 1936).

Very little is known about the breeding, biology and numbers of *O. t. kelsalli* since it was first found breeding in natural crevices among rocks on Gallinazo and Guaca Islets, Pescadores Islands, and on San Gallán Island off the coast of central Peru in 1912 (Murphy 1936, Harrison 1983, Duffy *et al.* 1984). After breeding, this species ranges south to the coast of Chile (Araya & Millie 1992) and north to Ecuador, Colombia and Mexico and occasionally to California, USA (Harrison 1983). We present photographic documentation and information from two newly discovered breeding colonies of the Wedge-rumped Storm Petrel on Chao and Corcovado Islands, off the coast of north-central Peru (Figs. 1 & 2).

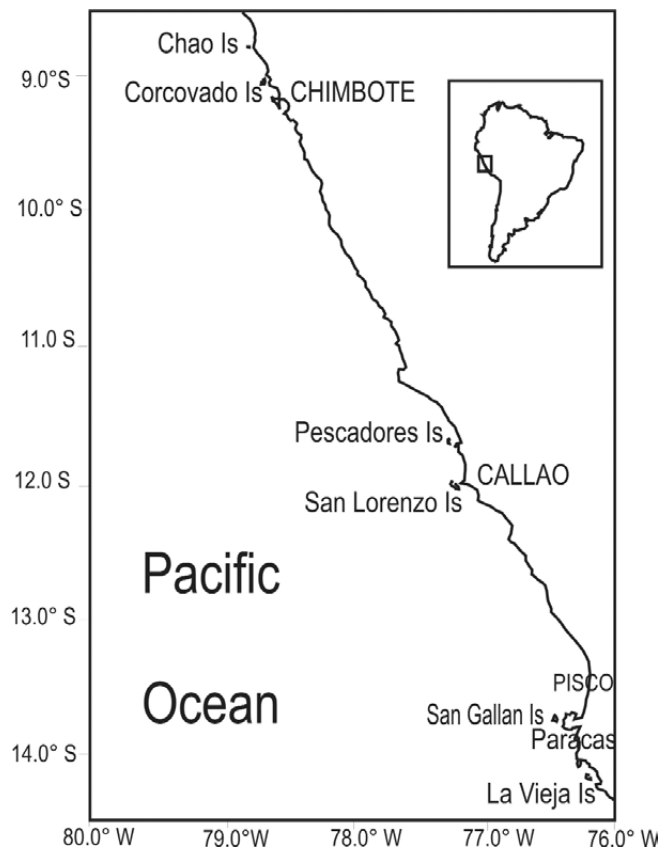
Chao Island (08°46'S, 78°47'W; 0.155 km<sup>2</sup>; 3.6 km offshore) was visited during 8–9 April 2003. Corcovado Island (08°56'S, 78°42'W; 0.038 km<sup>2</sup>; 6.2 km offshore) was visited during 10–11 April 2003. Chao and Corcovado Islands have had a long history of guano production (Murphy 1936, Nelson 1978). Dry-stone walls were built to avoid the loss of guano. The walls vary from 5 m to 100 m long and from approximately 30 cm to 1.5 m in height. Censuses of storm petrel nests were conducted from 18h00 to 20h00 during the two days spent at each island. Our count included only active nests with eggs that were visible from the burrow entrance or that contained visible adults. Due to nest characteristics it was impossible to detect activity otherwise. In addition, the widest and narrowest dimensions of the nest openings and their depth were measured, as were some eggs and breeding adults.



**Fig. 1.** Wedge-rumped Storm Petrel *Oceanodroma tethys kelsalli* at Chao Island, Peru. (Photo: M. Valverde)

Most nests were found in interstices among dry-stone walls. A smaller number of nests was found in natural crevices among rocks. We found a total of 42 occupied nests on Chao, of which 35 (83%) contained eggs. The census was completed for 60% of the walls, shortage of time precluding a more complete search. Therefore, the number of active nests is likely to have been higher. We found 45 occupied nests on Corcovado, 25 (56%) of which contained eggs. All dry-stone walls were checked for nests.

We measured nests in interstices among dry-stone walls. Eleven nest openings measured a mean of 100±32 mm (range: 45–150 mm) at the widest and 47±15 mm (range: 25–70 mm) at the narrowest. Mean depth was 300±70 mm (range: 240–400 mm, *n* = 10). Murphy (1936) gives a depth of “a half meter or more” for nests found in natural crevices, but in our case the width of the



**Fig. 2.** Breeding localities of the Wedge-rumped Storm Petrel *Oceanodroma tethys kelsalli*: Chao, Corcovado, Pescadores and San Gallán islands in Peru.

walls placed a limit on deep nests. Twelve eggs had mean dimensions of  $26.2 \pm 1.6$  mm (range: 20.3–27.4 mm) by  $19.5 \pm 0.7$  mm (range: 18.1–20.3 mm). These mean egg measurements are slightly smaller than the means of  $27.3 \pm 0.9$  mm by  $19.8 \pm 0.5$  mm ( $n = 6$ ), as calculated from data given by Murphy (1936) for the Pescadores Islands.

Six unsexed adults had measurements of culmen  $12.1 \pm 0.2$  mm (range: 11.8–12.2 mm), wing length  $123 \pm 2.6$  mm (range: 120–127 mm), tarsus  $21.7 \pm 1.0$  mm (range: 20.5–22.8 mm) and mass  $23 \pm 2$  g (range: 20–25 g,  $n = 7$ ). These mean measurements fall within the ranges given for 14 specimens of *O. t. kelsalli* by Murphy (1936) and distinguish the Peruvian birds from the nominate *O. t. tethys*.

There is very little information on the Peruvian breeding localities of the subspecies *kelsalli* of the Wedge-rumped Storm Petrel. Indeed, we are unaware of any published reports since those of Murphy (1936). Searches for nests in the Paracas National Reserve, including on San Gallán [where it was first recorded breeding in 1913 (Murphy 1936)] and La Vieja Islands in 1992 and 1993 were not successful, although birds may have been missed in dry-stone walls on the latter island (J. Jahncke *in litt.*).

The discovery of Wedge-rumped Storm Petrels breeding on Chao and Corcovado Islands shows that the species was beginning to breed in April, similar to “early May” when R.H. Beck found eggs in the Pescadores Islands in 1912 (Murphy 1936). Chao and Corcovado islands do not have large colonies of guano birds (PROABONOS censuses), and so guano has not been extracted from them for more than 20 years. Wedge-rumped Storm Petrels may thus have subsequently colonized these islands due to reduced human disturbance. Alternatively, they may have been overlooked in the walls all along.

Because of the general lack of information about the biology of the Wedge-rumped Storm Petrel in Peru, more island surveys are required so that a clearer understanding of its breeding biology, population size and conservation needs can become available.

#### ACKNOWLEDGEMENTS

We thank Mariano Valverde and Mary García for their help during fieldwork. Thomas Schulenberg and Jaime Jahncke made valuable comments on the manuscript. PROABONOS authorized our research on Chao and Corcovado Islands. Fishing vessels from Chimbote kindly provided transport.

#### REFERENCES

- ARAYA, B. & MILLIE, G. 1992. Guía de campo de las aves de Chile. Santiago de Chile: Editorial Universitaria.
- CARBONERAS, C. 1992. Family Hydrobatidae (storm-petrels). In: del Hoyo, J., Elliot, A. & Sargatel, L. (Eds). Handbook of the birds of the world. Vol. 1. Ostrich to ducks. Barcelona: Lynx Edicions. pp. 258–271.
- DUFFY, D.C., HAYS, C. & PLENGE, M.A. 1984. The conservation status of Peruvian seabirds. In: Croxall, J.P., Evans, P.G.H. & Schreiber, R.W. (Eds). Status and conservation of the world's seabirds. *International Council for Bird Preservation Technical Publication 2*: 245–259.
- HARRISON, P. 1983. Seabirds, an identification guide. Beckenham: Croom Helm.
- MURPHY, R.C. 1936. Oceanic birds of South America. New York: American Museum of Natural History.
- NELSON, J.B. 1978. The Sulidae gannets and boobies. Oxford: Oxford University Press.