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Salmonella enterica in Pinnipeds, Chile

To the Editor: Several wildlife-associated zoonotic agents have played a major role in the emergence of diseases in humans (*1*). However, diseases can also emerge in wildlife as a result of human activities, such as contamination of the marine environment and its fauna by the disposal of nontreated human sewage. *Salmonella enterica* is among the agents identified as causing infection in various marine birds and mammals, including pinnipeds, from different geographic regions (*2*–*4*).

The objective of our study was to determine whether *S. enterica* infection occurs in pinnipeds from the Chilean coast. During August–December 2010, we obtained samples from 13 South American sea lions (*Otaria flavescens*) that the sanitary authority found malnourished and stranded at the northern Chilean beaches of Antofagasta (23°40′S, 70°24′W) and Los Vilos (31°54′S, 71°30′W) (Table). The pinnipeds showed no clinical signs or symptoms of disease; however, rectal swab samples were obtained during their stay for rehabilitation at the Buin Marino facilities (Santiago, Chile). After the animals recovered, they were released to their original habitat.

The swab samples were placed in Cary-Blair transport medium (COPAN, Murrieta, CA, USA) for shipment to the laboratory (Laboratory of Infectious Diseases, University of Chile, Santiago). To isolate bacteria, we placed the swab samples into 5 mL of buffered peptone water (Difco APT broth; Becton Dickinson, Franklin Lakes, NJ, USA), incubated them for 24 h at 42°C with agitation, and then aliquots of the suspension were transferred into the following media: modified semisolid Rappaport-Vassiliadis basal medium (Oxoid, São Paulo, Brazil) with novobiocin (20 μg/mL), selenite cysteine broth base (Oxoid), and xylose lysine desoxycholate agar (Difco XLD; Becton Dickinson). After the aliquots were incubated at 37°C for 24–48 h, we identified suspected colonies by using biochemical tests and *invA* gene detection by PCR (*5*). Results showed that 2 of the 13 animals were infected with *S. enterica* strains, which were serotyped as *S. enterica* serotype Newport and *S. enterica* serotype Havana (Table), according to the Kauffmann-White scheme (*6*). Testing showed that the strains were susceptible to the following antimicrobial drugs: ampicillin, chloramphenicol, tetracycline, amoxicillin/clavulanic acid, trimethoprim/sulfamethoxazole, cefotaxime, nalidixic acid, nitrofurantoin, ciprofloxacin, ceftazidime, and cefoxitin (*7*).

Our results confirm *S. enterica* infection in pinnipeds from Chile and,

Table. Characteristics of South American sea lions (*Otaria flavescens*) tested for infection with *Salmonella* spp., Chilean coast, August–December 2010*

Identification no.	Sex	Age†	Source, city in Chile	*S. enterica* serotype isolated
p070810	F	Juvenile	Antofagasta	ND
p240810	F	Juvenile	Los Vilos	ND
p260810	F	Juvenile	Los Vilos	ND
p090910–1	M	Pup	Antofagasta	Havana
p090910–2	F	Pup	Antofagasta	ND
p140910	M	Pup	Antofagasta	Newport
p011210–1	F	Pup	Antofagasta	ND
p011210–2	F	Pup	Antofagasta	ND
p011210–3	F	Pup	Antofagasta	ND
p011210–4	F	Pup	Antofagasta	ND
p011210–5	F	Pup	Antofagasta	ND
p011210–6	F	Pup	Antofagasta	ND
p011210–7	F	Pup	Antofagasta	ND

*ND, no detection.
†Juvenile, animal 1–5 years of age; pup, animal <1 year of age.

more broadly, the South American coast and contrast with previous unsuccessful attempts to detect *Salmonella* spp. in pinnipeds from Valdivia, 2,200 km to the south (*8*). This finding suggests geographic variability in the epidemiology of infection; however, this possibility must be confirmed in additional studies with more samples and additional regions.

S. enterica is an endemic bacterium in Chile that causes infection in humans and domestic animals. The Chilean sanitary authority includes *S. enterica* infection among the list of notifiable diseases, but surveillance is not conducted for *S. enterica* in wildlife. However, consideration should be given to changing this situation, given a report suggesting *S. enterica* as a priority for active surveillance (*9*). In addition, *S. enterica* serotypes Newport and Havana have been detected in Chile's human population (*10*), strengthening the necessity for official support for initiatives addressing the need to elucidate the epidemiology of *Salmonella* in aquatic animals.

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