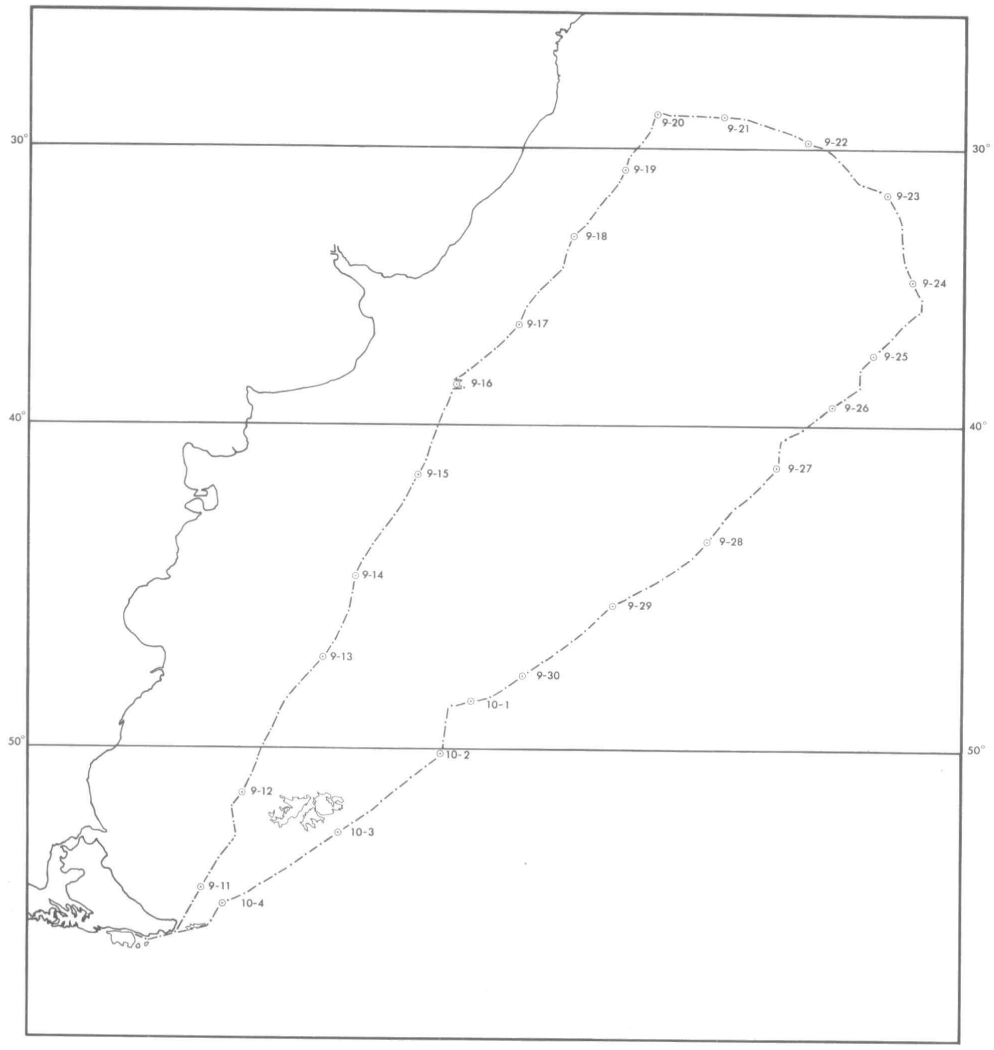
Marine mammals and birds in the southwest Atlantic Ocean: R/V *Hero* cruise 75-5

ROBERT L. BROWNELL, JR.
Department of Vertebrate Zoology
National Museum of Natural History
The Smithsonian Institution
Washington, D.C. 20560

R/V *Hero* cruise 75-5 departed Ushuaia, Argentina, on 11 September 1975 and ended at the same port on 6 October 1975 after systematic observations of marine mammals and birds in the southwest Atlantic Ocean. In addition to the author, the scientific complement comprised the following: E. D. Mitchell and V. M. Kozicki, Arctic Biological Station, St-Anne de Bellevue, Quebec, Canada; A. Kawamura, Whales Research Institute, Tokyo, Japan; Saint-claire Bechtinger Simon, superintendencia do Desenvolvimento da Pesca, Rio de Janeiro, Brazil; M. A. E. Rumboll, Museo Argentino de Ciencias Naturales, Buenos Aires, Argentina; F. Addison, Washington, D.C.

Ship's track. After leaving the Beagle Channel and rounding Cape San Diego, Tierra del Fuego, *Hero* went north-northeast for 9 days, traversing waters outside the continental shelf. On reaching the most northern point of the cruise (28°40′S. 44°00′W.) on 20 September, the course was changed to easterly, and we continued toward Bromley Plateau. The ship crossed the plateau from northwest to southeast in 2½ days, after which it began the return leg of the cruise. The most eastern point of the trip (33°50′S. 32°00′W.) was reached on 24 September after 1 day of a south-southeast course. *Hero* was then put on a southwest course and passed east of the Falkland Islands (Islas Malvinas) and Staten Island and then west to the entrance of the Beagle Channel (figure).

Marine mammal observations and research. Teams made up from the scientific staff kept watch for marine mammals during all daylight hours. Few large whales were sighted. They include, in descending order of abundance: sperm whales, *Physeter catodon;* sei whales, *Balaenoptera borealis;* and minke whales, *B. acutorostrata.* Observations were recorded on the following small cetaceans: southern bottlenose whale, *Hyperoodon planifrons;* long-finned pilot whale, *Globicephala melaena;* hourglass dolphin, *Lagenorhynchus cruciger;* Peale's dol-



Track of R/V *Hero* cruise 75-5 (September and October 1975).

phin, *L. australis;* and southern right whale dolphin, *Lissodelphis peronii.* Two species of pinnipeds were observed during the cruise: South American fur seal, *Arctocephalus australis;* and South American sea lion, *Otaria flavescens.*

One sperm whale approximately 12 meters in length was tagged at 37°20′S. 33°52′W. by Kozicki on 25 September (Canadian sperm tag number FRBC/5584).

Detailed data were compiled on the coloration and behavior of all the small cetaceans encountered during the cruise.

Seabird observations and research. This program was directed by Joseph R. Jehl, Jr., Natural History Museum, San Diego, California. Dr. Rumboll conducted all the field research. Using standard techniques, he censused seabird numbers at specified periods throughout the day. Although seabird populations were low at this season, presumably because breeding birds had moved southward into the vicinity of nesting islands, Dr. Rumboll was able to gather valuable quantitative data from this little-studied area. He also obtained new distributional data for several species. The most unexpected discovery was the sighting of three juvenile emperor penguins, *Aptenodytes forsteri,* off the coast of Northern Argentina (approximately 40°S. 54°W.). Previously this species had not been discovered away from the pack ice, and Dr. Rumboll's observations thus suggest that its range may be more extensive than we currently recognize.

Data were compiled on the feeding habits, the associations, and the ecology of seabirds. When possible, specimens were collected for stomach contents. Mallophaga recovered from bird specimens were sent to the University of Canterbury, Christchurch, New Zealand, for identification and study. In addition, Rumboll made daily plankton tows; the samples were deposited in the Museo Argentino de Ciencias Naturales in Buenos Aires and are being studied there by N. Maldagi.

Conclusions. Unfortunately, observations of large cetaceans were few, in part because of rough seas

throughout most of the cruise. The almost complete absence of minke whales was a disappointment, as the ship's track had been planned to traverse waters believed to be frequented by minkes at the time of the cruise. The absence of minkes indicates that current ideas of the seasonal distribution of these whales must be refined.

The cruise constituted an important U.S. contribution to the International Decade of Cetacean Research of the International Whaling Commission.

The master of R/V *Hero,* Pieter Lenie, and his crew provided excellent assistance to our program. This research was supported by National Science Foundation grants DPP 75-19724 and DPP 75-19221, and by Environment Canada.