

Marine mammal and bird observations and trawling off Uruguay: R/V Hero Cruise 72-3a

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Cruise 72-3a of the research ship *Hero* began at Buenos Aires, Argentina, on July 17, 1972, to operate in coastal Uruguayan waters between Punta del Este and just south of the Arroyo Chuy (the border between Uruguay and Brazil). Cruise objectives were (1) to observe marine mammals and birds, and (2) to take bottom trawl samples for data on abundance and diversity of coastal fauna. These specimens also are yielding supplementary information for a study by Brownell on the comparative food habits of the top trophic feeders: dolphins, sea lions, and sharks. This work was conducted between July 18 and July 24, with *Hero* returning to Buenos Aires July 25.

Marine mammals and birds were not seen in abundance during the cruise, but our bottom trawl samples were richer than expected. These collections will be deposited in the Smithsonian Institution and the Museo Nacional de Historia Natural de Montevideo. The specimens will be made available to specialists and should in time provide interesting data on the biogeography of this poorly known region.

Mammals

Observations were recorded on only five species of marine mammals: killer whale, *Orcinus orca*; bottlenose dolphin, *Tursiops truncatus*; franciscana (a dolphin), *Pontoporia blainvillei*; southern sea lion, *Otaria flavescens*; and South American fur seal, *Arctocephalus australis*.

Three *Orcinus orca* were observed about 5 kilometers north of Isla Marco, near Cabo Polonio, on July 23. We followed these whales for 50 minutes, but they are evasive and difficult to approach. Killer whales are reportedly common around the islands that support large sea lion populations. *Pontoporia blainvillei* and *T. truncatus* are the most abundant cetaceans in these waters, but only a single dolphin of each species was observed. The bottlenose dolphin was sighted close to the shore at Punta del Diablo (Los Cerros), and the franciscana was sighted near Isla Marco.

The apparent absence of cetaceans was not surprising since none were sighted in this area during *Hero* Cruise 69-3 in late June 1969. However, on both cruises the weather was generally unsuitable for observations, and relatively little time was available to watch for cetaceans while the vessel was off Uruguay. Cetaceans are more abundant here than our cruise data indicate; 17 species are known to occur in Uruguayan waters (Ximénez *et al.*, 1972).

Pinnipeds, mainly *A. australis*, were abundant on Isla de Lobos, Isla Marco, Islas de Torres (three small islands), and nearby islets. Numerous sea lions (*O. flavescens*) were observed in the water around these islands, but only a single adult male was observed hauled out on Isla Verde, and few sea lions were observed in the vicinity of that island. Time did not permit a census of pinnipeds on any of these islands. Both species are abundant in these waters, and both are annually harvested by the Uruguayan government organization Servicio Oceanográfico y de Pesca.

Birds

Species of birds recorded during the cruise were Magellanic penguin, *Spheniscus magellanicus*; great grebe, *Podiceps major*; black-browed albatross, *Diomedea melanophris*; giant fulmar, *Macronectes giganteus*; cape pigeon, *Daption capense*; prion, *Pachyptila* sp. (probably *P. belcheri*); white-chinned petrel, *Procellaria aequinoctialis*; sooty shearwater, *Puffinus griseus*; neotropic cormorant, *Phalacrocorax olivaceus*; kelp gull, *Larus dominicanus*; brown-hooded gull, *L. maculipennis*; and South American tern, *Sterna hirundinacea*. Two other species were observed briefly once but not identified. One specimen each of *D. melanophris*, *D. capense*, and *P. griseus* was collected.

All of the *L. dominicanus* observed along the northern coast (Cabo Polonio to just south of the Arroyo Chuy) were adults. On July 22 we observed three kelp gulls that appeared to be nesting on Isla Verde. The nesting period of this species is disrupted in Uruguay by local egg hunters.

None of the species observed were abundant except for *L. dominicanus*. The generally poor weather is probably the main reason for the low number of species and density of birds observed. Cruise 69-3 provided information on a greater number of species and density of birds.

Bottom specimens

Specimens were collected at 22 stations. The first three stations were made with a small bottom trawl (21 by 62 centimeters) that proved unsuccessful. The remaining stations were made with a larger trawl that measured 30 by 90 centimeters. Additional stations were planned, but the trawl was lost at the 23rd station when it caught on the bottom and the cable snapped. All trawling was between Cabo Castillo and just south of the Arroyo Chuy at depths between 7 and 24 meters at distances of 1 to 21 kilometers offshore.

Preliminary results are summarized by phylum:

Porifera. Sponges, probably of the genus *Acervochalina*, were collected at only one station.

Coelenterata. Hydroids were collected from mollusks at three stations. The bottom sediment at these localities was a mixture of broken shells and sand. Sea anemones were relatively common. Examples of 35 were found attached to sand crabs, *Libinia spinosa*, and mollusks. The sea pansy, *Renilla* sp., was the most abundant coelenterate collected during the cruise. A total of 125 were taken at nine stations, with 72 collected at one station. Partial specimens of the stony coral, *Astrangia* sp., were taken at three stations.

Bryozoa. Colonies of *Membraniphora tehuelche* were found encrusting mollusks and crabs.

Echinodermata. Sand dollars, *Encope emarginata*, were collected from areas with a sandy bottom. Some 152 examples were taken at three stations, with 137 of this number coming from a single station. Various species of sea stars and brittle stars were collected. These were comparatively abundant and generally on bottoms with a mixture of broken shells and sand. *Enoplopatiria marginata* was one of the most common sea stars.

Mollusca. The largest collection of material was obtained from this phylum. More than 250 lots were taken, totaling about 1,800 specimens and including species of chiton and no less than 30 species of gastropods and pelecypods. All of these specimens are currently under study by Olazarri and will be the subject of a separate report.

Annelida. Polychaetes were the only class of this phylum represented in the collections. These worms were collected at almost every station. The genera *Chaetopterus*, *Nereis*, and *Serpula* were some of the more abundant.

Arthropoda. A total of 228 specimens (54 lots) of crustaceans were obtained, not counting barnacles. Three genera of isopods were collected; one example each of *Nerocila* sp. and *Serolis* sp. and 11 specimens of the suborder *Valvifera* sp. The *Nerocila* was probably a parasite on one of the chondrichthyes collected at station 17. Small numbers of

shrimp, *Artemesia longinaris* and *Hymenopenaeus muelleri*, were present in 14 of the 22 trawls. The two species were taken together at three stations, and *H. muelleri* was collected alone in one trawl. Fifty-four *A. longinaris* were obtained, compared to only eight *H. muelleri*, but available data indicate shrimps are probably very abundant in this area. Both species of shrimp have been found in the stomach contents of the dolphin, *P. blainvillei*. Twenty unidentified hermit crabs and three *Eupagurus exilis* were collected. Other crabs collected were: 44 sand crabs, *Libinia spinosa*, from 10 stations and always in association with actinians; the genus *Munidopsis*, new for Uruguayan waters; *Pachycheles rudis*, 67 specimens from seven stations; and smaller numbers of *Pilumnus reticulatus*, *Persephona punctata*; *Platyxanthus crenalatus*, *Blepharipoda occidentalis*, *Pelia rotunda*; and members of the families Xanthidae, Porcellanidae, and Hexanthidae.

Chordata. Two ascidians were taken off a muddy bottom at one of the deeper stations. The type of trawl available did not permit us to obtain many fish, but the following chondrichthyes and osteichthyes were collected: eight *Raja agassizi*, one *Psammobatis microps*, two *Sympterygia bonapartei*, one *Rhinobatus percellens*, two *Symphurus jenynsi*, one *Sygnathus folletti*, and two *Urophycis brasiliensis*.

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