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WISSENSCHAFTLICHE KURZMITTEILUNG

First record of the Pygmy killer whale, *Feresa attenuata* Gray, 1875 from Peru, with a summary of distribution in the eastern Pacific

By K. Van Waerebeek and J. C. Reyes

Laboratorium voor Morfologie en Systematiek, Museum voor Dierkunde, Rijksuniversiteit Gent, Belgium, and Grupo Cetáceos, ECCO, Asociación de Ecologia y Conservación, Lima, Peru

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The distribution of the pygmy killer whale, *Feresa attenuata* Gray, 1875 was reviewed by Perrin and Hubbs (1969) and by Ross and Leatherwood (in press), and is assumed to be circumglobal in tropical and subtropical waters. The first record of this species from the eastern Pacific was a juvenile captured in May 1967 during commercial tuna fishing operations 300 to 400 nautical miles off Costa Rica (Perrin and Hubbs 1969). National Marine Fisheries (NMFS) observers aboard U.S.-registered tuna purse seiners operating in the eastern tropical Pacific reported 25 sightings of pygmy killer whales in the period 1971–1985 (as summarized in the Figure; Perrin, pers. comm.). *Feresa* is not seen in the northern part of the tuna grounds, towards the Gulf of California. Only three sightings are from south of the equator, where NMFS survey effort has been comparatively low: 25 animals at 02° 32′S, 94° 11′W on 17 January 1979; 9 at 07° 20′ S, 85° 13′ W on 6 December 1980, and 15 at 02° 27′ S, 109° 58′ W on 15 March 1981. In addition, during the IWC/IDCR research cruise in the eastern tropical Pacific in November and December 1982, one school of 8 animals without calves was seen at 08° 37′ S, 88° 04′ W (Donovan 1984).

Data are presented below on the first report of the pygmy killer whale from Peru, the most southerly record of this species in the eastern South Pacific.

On 30 November 1984 the mummified remains of a pygmy killer whale were discovered in one of the several dumps in the desert surrounding Pucusana, a small fishing town in central Peru (12° 30′ S, 76° 48′ W). At the same place, many tens of skeletons of several other small cetaceans were found, all victims of the Peruvian small cetacean fishery. In Pucusana most small cetaceans are caught in gill nets, with the remainder captured by a variety of other methods (Read et al. 1985; Van Waerebeek and Reyes 1986; Van Waerebeek et al. 1987). The majority of local fishing occurs well within 100 nautical miles of shore and mostly much closer.

The *Feresa attenuata* specimen we report consists of the head, the hyoids, six posterior lumbar vertebrae, the complete series of caudals (32), 23 chevron bones, both pelvic bones, the flippers, and the dorsal fin. The intact skull, covered by mummified skin, showed the rounded head typical of this species; all underlying soft tissue had disappeared. Sex and total length of the animal could not be determined. Initially the animal was thought to be physically immature considering the small size of the skull (339 mm condylobasal length) compared to the 352–405 mm range (X = 373 mm, n = 27) listed by Ross and Leatherwood (in press). However, fusion of the epiphyses of the caudal and lumbar vertebrae as well as in the flipper bones, the near closure of tooth pulp cavities, the flattening of the dorsal surface of the rostral portion of the premaxillae lying on the same

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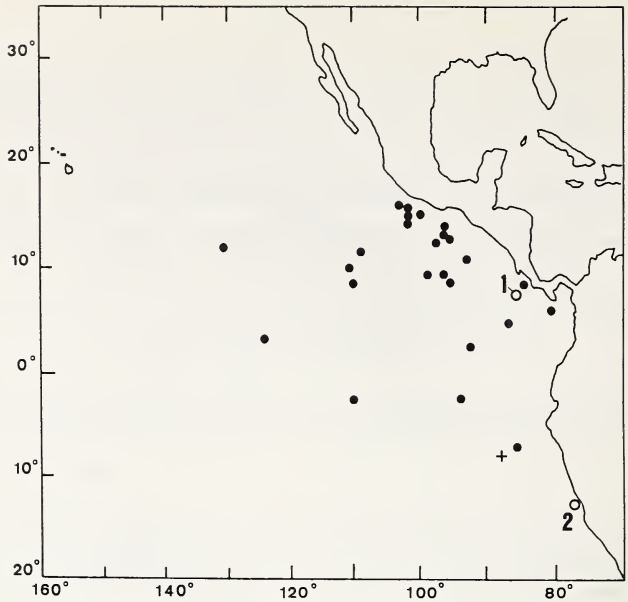

Summary of known distribution of *Feresa attenuata* in the eastern Pacific: ● = sightings by NMFS observers between 1971–1985 (Perrin, pers. comm.); + = sighting during IWC/IDCR research cruise (Donovan 1984); 1 = specimen collected off Costa Rica (Perrin and Hubbs 1969); 2 = specimen from Pucusana, Peru (present paper). Central Pacific records (e.g. Hawaii) are not shown here

level as the maxillae (sensu Fraser 1960), and the general degree of fusion of the cranial sutures all indicate that the whale was at least approaching physical maturity.

Cranial measurements (in mm) according Schnell et al. (1982), and as a percentage of the condylobasal length (CBL) shown in parentheses, are: CBL, 339 (100); length of rostrum from base, 161 (47.5); length of rostrum from pterygoid, 203 (59.9); width of rostrum at base, 122 (36.0); width of rostrum at ¼ length, 98 (28.9); width of rostrum at ½ length, 86 (25.4); width of premaxillaries at ½ length, 57 (16.8); width of rostrum at ¾ length, 69 (20.4); preorbital width, 203 (59.9); postorbital width, 233 (65.8); skull width at zygomatic process, 224 (66.1); skull width at parietals, 164 (48.4); height of braincase from basisphenoid to summit of supraoccipital, excluding crest, 113 (33.3); internal length of braincase, including occipital condyles, 138 (40.7); maximum width of premaxillaries, 85 (25.1); greatest width external nares, 46 (13.6); length mesethmoid, 60 (17.7); greatest width of left temporal fossa, 63 (18.6); orbital length, 59 (17.4); length of left antorbital process, 44 (13,0); maximum separation of pterygoids, 1 (0.3); greatest width of internal nares, 58 (17.1); length of left tympanic cavity, 64 (18.9); length of right tympanic cavity, 63 (18.6); greatest distance between left and right pterygobasioccipital sutures, 59 (17.4); length left upper tooth row, 108 (31.9); number of teeth-upper left, 10; -upper right, 9; -lower left, 11; -lower right, 12; length of left lower tooth row, 120 (35.4); greatest height of left ramus, 72 (21.2); tooth width, 5.8; greatest length of left ramus, 269 (79.3).

Both left and right pterygoid sinuses were eroded in "basket like" lesions as associated with infections of the nematode, *Crassicauda* sp. The damage to the bone could be diagnosed as severe (Perrin and Powers 1980).

The specimen is provisionally kept by the authors at their cetacean study collection in Lima under no. KVW-032.

The discovery of a pygmy killer whale combined with several other recent findings of pelagic, warm-water adapted small cetaceans on the coasts of Peru and Chile (Van

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Waerebeek and Reyes 1986; Guerra et al. in press), suggest that the Humboldt Current is more a heterogenous and highly variable water body than a continuous and impenetrable cold water barrier.

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Authors' address: Koen Van Waerebeek and J. C. Reyes, Grupo Cetáceos-ECCO, Vanderghen 560, 2A, Lima-27, Peru

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