

Encounter with a School of Pygmy Killer Whales (*Feresa attenuata*) in Ecuador, Southeast Tropical Pacific

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Abstract

On 1 September 2003, a school of about 70 pygmy killer whale (*Feresa attenuata*) of several sizes (lengths varying from 1 to 2.5 m approximately) was sighted. The sighting was made around the La Plata Island (01° 34' S, 80° 99' W), Machalilla National Park, Ecuador, at a depth of about 47 m.

The school of dolphins was traveling at a speed of around 30 km/h. During the whole length of the observation, while the animals were traveling, they conducted running leaps and hard splash with their whole bodies outside of the water. On some occasions, their heads were outside of the water and they were bowriding in the waves produced by the boat. Individuals of about one m in length were observed; these were probably calves.

We observed the individuals staying close together in the bow area, and the sounds they produced were audible above the water. The length of the whistles was around 5 s. The species was observed at a 3 km distance from the Isla de la Plata and about 33 km from the continental coast of Ecuador.

Key Words: *Feresa attenuata*, Pygmy killer whale, behavior, Machalilla National Park, Ecuador, Southeast Tropical Pacific

Introduction

The pygmy killer whale (*Feresa attenuata*) is found in tropical and subtropical waters worldwide (Caldwell & Caldwell, 1971; Leatherwood et al., 1982; Leatherwood & Reeves, 1983; Reeves et al., 2002; Ross & Leatherwood, 1994). In the Eastern Tropical Pacific, the first record was a juvenile captured in 1967 during commercial tuna fishing operations 300 to 400 nmi off Costa Rica (Perrin & Hubbs, 1969; Van Waerebeek & Reyes, 1988).

In 1984, Van Waerebeek & Reyes (1988) discovered the mummified remains of a pygmy killer whale in Pucusana, Perú (76° 48' W, 12° 30' S).

On 1 April 1989, Lyrholm et al. (1992) registered a school of 200 to 300 individuals around the Galapagos Islands (91° 56' W, 0° 11' N). In Ecuador, the first register was in 1992 when a young pygmy killer whale stranded on the beach of San Pedro (80° 44' W, 0° 50' S) in the province of Guayas (Félix et al., 1995).

Other observations were made by personnel of the National Marine Fisheries Service (NMFS) of the United States between 1971 and 2000 (Kinzey et al., 2000, 2001; Van Waerebeek & Reyes, 1988a; Wade & Gerrodette, 1993). Of the last 25 direct observations of pygmy killer whales between 1971 and 1985 in the Eastern Pacific, none were made along the Ecuadorian coast (Van Waerebeek & Reyes, 1988). Wade & Gerrodette (1993) indicate 29 sightings from 1986 until 1990 and six sightings from 1999 until 2000 (Kinzey et al., 2000, 2001). Three sightings were made near Ecuadorian waters but in oceanic waters and the last reported sighting of this species in the north of Ecuador was in 2000 with 27 animals at 80° 12' W, 01° 42' N on 9 November 2000 (Figure 1).

Little is known of the behavior, distribution, and ecology of the pygmy killer whale (Caldwell & Caldwell, 1971; Leatherwood & Reeves, 1983; Reeves et al., 2002; Ross & Leatherwood, 1994). Although this species is widely distributed, it is seldom sighted in the wild (Carwardine, 1998). Therefore, in this note, we present data on the behavior and distribution of this species in the Eastern Tropical Pacific as it was observed during the first sighting in the shallow waters on the continental coast of Ecuador.

Materials and Methods

The school of *Feresa attenuata* were encountered from a 10 m long whale watching vessel, equipped with two outboard engines of 130 hp. The observers on the boat were experienced and took detailed field notes of the encounter. Observations were made from the bow of the boat, as well as from

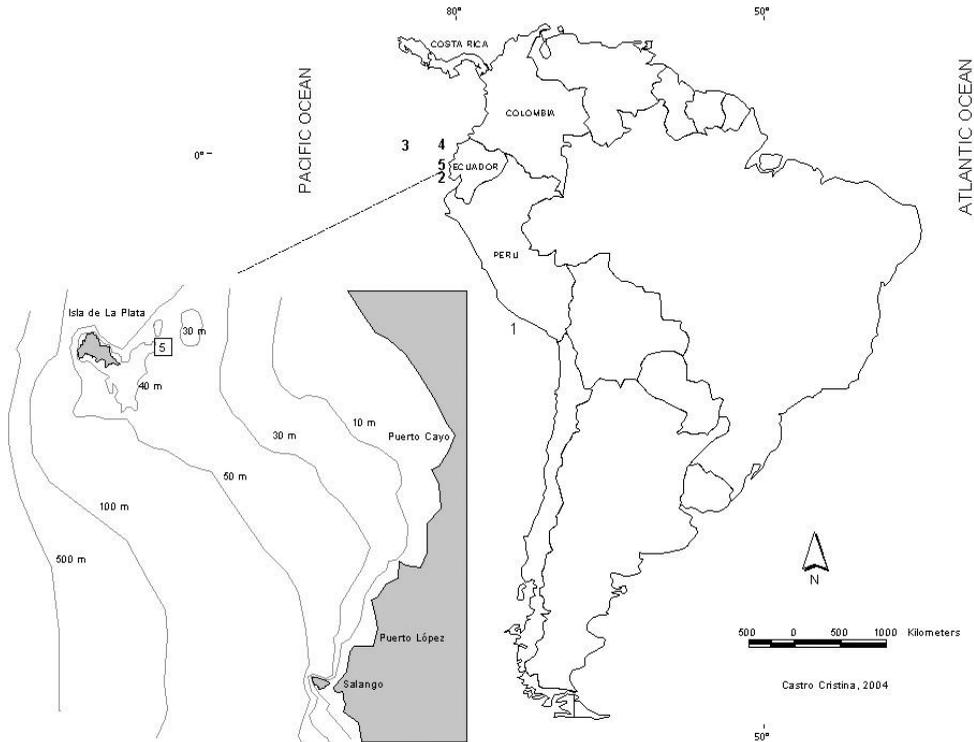


Figure 1. Records of pygmy killer whales (*Feresa attenuata*) in the Southeast Tropical Pacific:

- 1 – Mummified remains of a pygmy killer whale in Pucusana, Perú (Van Waerebeek & Reyes, 1988)
- 2 – Stranding in Guayas, Ecuador (Félix et al., 1995).
- 3 – School of 200 to 300 individuals around the Galápagos Island (Lyrholm et al., 1992)
- 4 – School of 27 individuals (Kinzey et al., 2001)
- 5 – School of 70 individuals around La Plata Island (Castro, in this publication)

the sides, and GPS positions (using a handheld Garmin GPS) were taken frequently during the sighting event.

Results

On 1 September 2003, a school of about 70 pygmy killer whale (*Feresa attenuata*) of several sizes (lengths varying from 1 to 2.5 m approximately) was sighted. The sighting was made around the La Plata Island (01° 34' S, 80° 99' W) at a depth of about 47 m (Figure 1). The school of dolphins was traveling at a speed of around 30 km/h¹; the group was spread out over an area of approximately 1.5 km.

Pygmy killer whales are similar in size to many other delphinids of the ETP (Leatherwood & Reeves, 1983; Leatherwood et al., 1982; Reeves et al., 2002; Ross & Leatherwood, 1994). They are most readily confused with melon-headed whales (*Peponocephala electra*) and, to a lesser extent,

because of their larger size, with false killer whales (*Pseudorca crassidens*). In the case of this sighting, identification was unambiguous and based on the close proximity of the animals and the specific characteristics of the species that were observed. It was possible to observe the form erect and falcate of the dorsal fin, the black coloration, and the white part around the mouth (Castro, pers. obs.). The pectoral fins were not pointed but with rounded tips (Soledispa, pers. obs.); furthermore, photographs were taken of the form of the head as seen from above. It had a rounded form, and small scars were seen on the body (Castro, pers. obs.) (Figure 2).

During the whole length of the observation, while the animals were traveling they were jumping with their whole body out of the water. The jumps were horizontal with high speed, and on some occasions, they entered the water with the

¹ Speed calculated in relation to the boat



Figure 2. Dorsal fin of a pygmy killer whale (*Feresa attenuata*) in Ecuadorian waters

head or with the lateral sides of the body. This aerial behavior was described as running leaps and hard splashes. Also, the heads of the individual adults and subadults were outside of the water, and they were bowriding in the waves produced by the boat.

Reproductive habits of the pygmy killer whales are not well known, although mating occurs in spring in the Gulf of Mexico (Würsig et al., 2000). In the school, individuals of about one m in length and their dorsal fins were observed; it is possible these were calves. These animals did not come close to the boat but performed running leaps in the same direction as the adults and the boat.

We were able to approach the school without problems. During the first min, some adult dolphins approached the one side and swam parallel to the boat. After about ten min, the individuals started to bow ride the waves in the front of the boat, frequently changing position between the sides of the boat and the back of the boat to again stay in the bow wave for 20 min more. We observed that the individuals (90%) were staying close together in the bow area, and the sounds they produced were audible above the water. The length of the whistles was around 5 s.

Discussion

The pygmy killer whale lives in deep and warm waters (Carwardine, 1998; Reeves et al., 2002). The school of about 70 animals was observed at a depth of about 47 m in the continental coast of Ecuador. In the Galápagos, this species is considered rare and normally seen in waters deeper than 1,800 m (Day, 1994). The last sighting of this species was made by U.S. NMFS personnel on 9 November 2000 at a depth of 200 m; the school size was 27 animals (Kinzey et al., 2001).

Van Waerebeek et al. (1988) indicated that although this species is normally oceanic, it has been seen by the Peruvian coast due to the characteristic form of the continental shelf and the

dynamics of the Peruvian sea. In Ecuador, the cause for the sightings in rather shallow water could be similar to the ones described in Van Waerebeek et al. where oceanic species can occur in areas of little depth because the continental platform is very close to that of La Plata Island.

In captivity, the animals show a surprising amount of aggression which led to the idea that they feed on other mammals (Leatherwood et al., 1982; Mitchell, 1975; Northridge, 1985; K. Pryor, 1991; T. Pryor et al., 1965). K. Pryor (1991) reported that when capturing and studying individuals (*Feresa attenuata*) in captivity their behaviors are more like a wolf than a dolphin. They growl, snap, and would not hesitate to attack a person or another cetacean. Moreover, they have been reported to attack other delphinids incidentally caught in tuna nets in the Eastern Tropical Pacific (Mitchell, 1975; Northridge, 1985; Würsig, 2000). Never did we observe aggressive behavior with us or with other delphinids.

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