NORTHERNMOST RECORD OF THE ANTARCTIC MINKE WHALE (*Balaenoptera bonaerensis*) IN THE EASTERN PACIFIC

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ABSTRACT

We present the first record of the Antarctic minke whale (*Balaenoptera bonaerensis*) in Ecuador (2°7.35'S, 80°45.7'W). It was a single stranding of a newborn calf of 3.43m in length. The species was identified based on morphological characteristics such as the number and colour of baleen plates, the number of ventral groves, and the chevron-shaped greyish light colouration pattern on the flanks. Although only a handful record exist of this species in the Eastern Pacific, it confirms that the breeding area of this species at least reaches the equator in this region.

INTRODUCTION

Until a couple of decades ago the taxonomic status of minke whales was not sufficient defined. Minkes from both Hemispheres were considered conspecifics and generally referred to as *Balaenoptera acutorostrata* (eg. Leatherwood and Reeves, 1983). In 2000 the Scientific Committee of the International Whaling Commission recognized the Antarctic minke whale *B. Bonaerensis* as a different species (IWC, 2001). In the Southern Hemisphere *B. Bonaerensis* would coexist partially sympatric with the northern minke whale and a southern dwarf form that is genetically more related to *B. acutorostrata* (Reilly *et al*., 2008).

Based on surveys of whaling ships, Kasamatsu *et al*. (1995) suggested that there are two breeding areas of the southern minke whale in the Pacific Ocean, in the eastern and the western Pacific, mainly distributed between 10 and 20°S. However, the minke whale is considered an uncommon species in the Eastern Pacific (Jefferson *et al*., 2008). The species does not appear in records of whaling activities along the South American coast during the XX Century even when catches of more valuable whales such as sperm (*Physeter macrocephalus*), Bryde's (*Balaenoptera brydei/edeni*) or blue (*B. musculus*) decreased considerably (see Clarke, 1980). Previous records of the species in the eastern Pacific are from young bycatch specimens in artisanal fishing gillnets in Peru at 8 and 12°S (Van Waerebeek and Reyes, 1994; García-Godos *et al*., 2013). In addition, there exist a few records from the Galapagos Islands, Ecuador, referred to as *B. acutorostrata* (Merlen, 1995). Our specimen from continental coast would be the first confirmed record of *B. bonaerensis* in Ecuadorian waters and the northernmost one of the species in the Eastern Pacific.

The specimen

A newborn female rorqual of 3.43m in length with a unique central ridge on the head stranded at San Pablo, Ecuador (2°7. 35'S, 80°45.7'W) on 31st October 2004 (Figure 1). The specimen

was initially identified as sei whale (*Balaenoptera borealis*) (Félix, *et al*., 2001), however, a more detailed analysis of the available information showed that the specimen was in fact an Antarctic minke whale (*B. bonaerensis*).

The specimen was fresh when examined, with the epidermis present in around 90% of the body. The skin on its right side was in better condition as the animal laid on its left side and the sun had started drying it. The external examination did not help to determine the cause of the event. Externally, there was a wound of around 40cm without epidermis that extended from behind the left eye until the base of the pectoral fin. However, the absence of haemorrhages would suggest could have occurred after death, possibly due to abrasion with the beach.

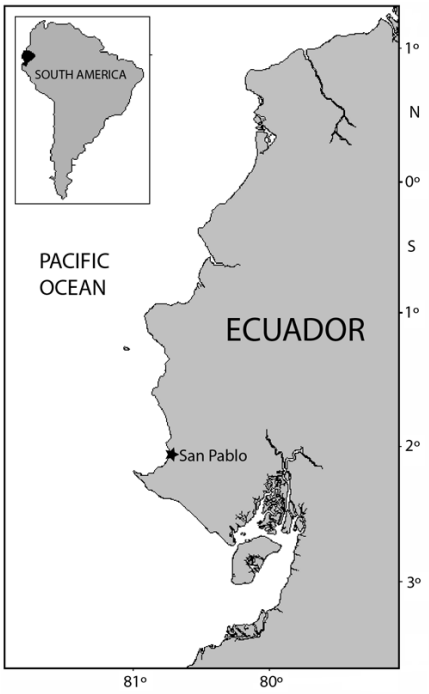

Figure 1. The site of the stranding at San Pablo, Ecuador.

The colouration of the specimen was dark grey on the back changing to light grey toward the flanks and white on the ventral side. Along the flanks a dark and light grey chevron pattern was observed, as typical described for minke whales (Leatherwood and Reeves 1983; Jefferson *et al*., 2008) (Figure 2). Pectoral fins were light grey coloured with the tips dark. The dorsal fin was tall and falcate, but it was still flexible due to the youth of the animal. There were 62 ventral groves that ended before the navel, which was still in process of healing.

Figure 2. Lateral view of the specimen of *B. bonaerensis* stranded at San Pablo, Ecuador.

The complete right row of baleen plates was collected, which had 265 individual baleen plates (Figure 3). Most plates were dark with the tips white, but the first quarter of plates from the tip were completely white. The row is maintained in formalin in the Museo de Ballenas of Salinas (Cat N° 115 MBABO 01). A sample of skin was collected and preserved in alcohol for genetic studies.

Figure 3. Right baleen plates row collected and curated at the Museo de Ballenas in Salinas, Ecuador.

DISCUSSION

Morphological characteristics of the Ecuadorian specimen coincides with general descriptions for minke whales, particularly regarding the number of ventral grooves, the number and colour of baleens and the distinctive chevron-coloured pattern in the flanks (Van Waerebeek and Reyes, 1994; Leatherwood and Reeves, 1983; Jefferson *et al*., 2008). Because of the absence of the white strip on the pectoral fin, we ruled out that our minke whale specimen was the northern or the southern dwarf form. Until today is not possible to make a connexion of our specimen, with a particular southern minke whale stock, as genetic studies have not been conducted.

The presence of this newborn calf in Ecuador during the breeding season of the South Hemisphere mysticeti, as well as other young and a calf from Peru (Van Waerebeek and Reyes, 1994; García Godos *et al*., 2013), confirms that this species breeds in the Eastern Pacific as far north as the equator, just like it occurs in the Atlantic Ocean (e.g. Siciliano *et al*., 2011). The distribution of Antarctic minke whale in wintering areas is poorly known and no areas of concentration have been reported; their distribution is probably offshore and disperse (Kasamatsu *et al*., 1995; Jefferson *et al*., 2008). The few reports of the species from the Eastern Pacific confirm the thesis. Since they have been reported just occasionally, strandings and bycatch victims seem to be a unique source of information in the Eastern Pacific. Emphasis should be put in obtaining tissue samples for genetic studies to assess stock identity and population structure.

REFERENCES

Clarke, R. 1980. Catches of sperm whales and whalebone whales in the Southeast Pacific Between 1908 and 1975. *Rep. Int. Whal. Commn*. 30:285-288.

Félix, F, Haase, B., Denkinger, J. and Falconí, J. 2011. Varamientos de mamíferos marinos registrados en la costa continental de Ecuador entre 1996 y 2009. *Acta oceanográfica del Pacífico* 16(1):61-73.

García-Godos, I., Van Waerebeek, K., Alfaro-Shigeto, J., Reyes, J. 2013. Entanglements of large Cetaceans in Peru: Few records but high risk. Pacific Science, vol. 67, no. 4. March 28, 2013

IWC, 2001. Report of the Scientific Committee. *J. Cetacean Res. Manage.* 3 (Suppl.). 76p.

Jefferson, A.J., Webber, M.C., and Pitman, R.L. 2008. Marine Mammals of the World, a comprehensive guide to their identification. Academic Press USA. 573p.

Kasamatsu, F., Nishiwaki, S. and Ishikawa, H. 1995. Breeding areas and southbound migrations of southern minke whales *Balaenoptera acutorostrata*. *Marine Ecology Progress Series* 119:1-10.

Leatherwood, S., and Reeves, R. 1983. The Sierra Club handbook of whales and dolphins. Sierra Club Books, San Francisco USA. 320p.

Merlen, G. 1995. A field guide to the Marine Mammls of Galapagos. Instituto Nacional de Pesca, Guayaquil, Ecuador. 130p.

Reilly, S.B., Bannister, J.L., Best, P.B., Brown, M., Brownell Jr., R.L., Butterworth, D.S., Clapham, P.J., Cooke, J., Donovan, G.P., Urbán, J. & Zerbini, A.N. 2008. *Balaenoptera bonaerensis*. In: IUCN 2012. IUCN Red List of Threatened Species. Version 2012.1. <www.iucnredlist.org>. Downloaded on 21st August 2012.

Siciliano, S., Emin-Lima, R., Rodrigues, A.L.F., de Sousa e Silva Jr. J., Scholl, T.G.S. and Moura de Oliveira, J. 2011. Antarctic minke whales (*Balaenoptera bonaerensis*) near the Equator. Document SC/63/IA2. 6p.

Van Waerebeek, K. and J.C Reyes. 1994b. A note on the incidental fishery mortality of southern minke whales *Balaenoptera bonaerensis* off western South America. *Rep. Int. Whal. Comm*. (special issue 15):521-523.