Gray whale (*Eschrichtius robustus*) sighting in Namibia (SE Atlantic) – first record for Southern Hemisphere.

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ABSTRACT

A gray whale (*Eschrichtius robustus*) has been photographed in Walvis Bay, Namibia (SE Atlantic - 23° 53' S 14° 28' E). The animal was first seen on 04 May 2013, species was confirmed by photographs on 09 May 2013 and it has been resident around the peninsula forming the western boundary of Walvis Bay since this time until 09 June 2013 (day of submission of paper). Comparison of photographs of the gray whale seen in the Mediterranean sea in 2010 (Scheinin et al., 2011) clearly shows this to be a different animal. The animal is small, estimated 11-13m in total length and is clearly skinny scoring poorly on body condition indices for the species. A biopsy skin sample has been collected by the authors and future analysis will allow for determination of sex and source population.

INTRODUCTION

Gray whales (*Eschristius robustus*) historically occupied both the North Pacific and North Atlantic Oceans. The North Atlantic (NA) population was whaled to extinction sometime around the early 1700s (Lindquist, 2000 in Scheinin et al., 2011). The southern most records in the NA are on the coast of Florida, USA (western NA) and southern England (eastern NA) (see Scheinin et al., 2011). Gray whales still inhabit the North Pacific (NP) with two recognised populations inhabiting the eastern and western sides of the Ocean. The Eastern North Pacific population (ENP) ranges from breeding areas off Baja California in Mexico to feeding areas in the Bering, Beaufort and Chucki Seas west and north of Alaska (Weller et al., 2012). The Western North Pacific population (WNP) feeds in the Okhotsk Sea off Sakhalin Island, Russia and in the south western Bering Sea. It's breeding areas are not well known but animals may migrate through waters close to the Korean Peninsula and Japan en route to a possible breeding location in the South China Sea (see Weller et al., 2012). The ENP population has recovered to historic carrying capacity with the population size in the region of 19 000 individuals in 2007 (Laake et al., 2009). In contrast the WNP population is one of the smallest of any cetacean population globally and regarded as 'Critically Endangered' (Reilly et al., 2012) with the estimated population size of only 130 individuals (90% Bayesian CI = 120-142) in 2008 (Cooke et al., 2008).

The two North Pacific gray whale populations are significantly differentiated by both mtDNA and nuDNA (Lang, 2010; Lang et al., 2011). However recent observations of two individuals satellite tagged in the WNP identified unambiguous movement of animals from the WNP population to the ENP (Mate et al., 2011; IUCN, 2012). Subsequent comparison of photo-ID catalogues between the ENP and WNP populations (e.g. Weller et al., 2012) has revealed considerable exchange of individuals (n = 23 or ~15% of the WNP population) between these two areas. Increasingly, gray whales are being seen outside of their expected ranges, particularly around the WNP which has been historically less well studied. Sightings of gray whales have been made in the Laptev Sea and near Frans Josef Land to the north of continental Russia, well within range of the historical Atlantic population (Ilyashenko, 2012) and suggesting that gray whales may be using an Arctic route to travel between the North Pacific and North Atlantic Oceans. Indeed, on the 08 May 2010 a single gray whale was photographed off the coast of Turkey in the eastern Mediterranean Sea and 22 days later photographically re-identified off the southern coast of Spain (Scheinin et al., 2011). This is the first confirmed sighting of a gray whale in the Mediterranean Sea, and the first record of a gray whale in the North Atlantic since the 1700s. Furthermore, this record represents the longest vagrancy of any mammal to date, being seen in the region of 22 000 – 23 500 km from their closest known population, depending the route used between the ENP and Turkey (Scheinin et al., 2011).

METHODS & RESULTS

On the 04 May 2013 a gray whale was seen in Walvis Bay, Namibia (23° 53' S 14° 28' E; Fig. 1) by marine tour operators. The whale was reported to local researchers soon after (authors SE and TG – Namibian Dolphin Project, who were offsite at the time) and the species was confirmed from photographs taken on the 09 and 11 May 2012 (Fig 2). The whale has been seen by tour operators almost every day since this time until the 09 June 2013 (last available data prior to submission). On 06 June 2013, the NDP team were able to collect further confirmatory photographs and a skin sample from the animal. The whale was estimated visually (relative to the size of the boat) to be between 11-13m in total length, suggesting it may be a juvenile.

Concern was raised by researchers familiar with gray whales that the animal appeared in poor body condition (P. Clapham, Jim Darling pers comm.). Using the photographs to assess body condition, the animal would score a 1 (poorest of 3 states) for post-cranial condition and a 1 (of 2) for lateral flank condition on the body condition scale developed by Bradford et al. (2008); it was not possible to assess scapular condition.

All sightings of the whale have occurred near to shore (<1km) around (both east and west of) Pelican Point, the sand spit forming the west side of Walvis Bay (Fig. 1). Although no clear signs of feeding were observed by the research team on the 06 June 2013 (e.g. no patrolling through patches of prey, lunge feeding or mud plumes resulting from bottom feeding), the whale has most often been reported to be milling in a small area <1km^2 when encountered by tour operators. The area around Pelican Point is one where mixing occurs between currents leaving the bay and oceanic waters to the west which appears to create an area of high productivity. Both Heaviside's dolphins (*Cephalorhynchus heavisidii*) and common bottlenose dolphins (*Tursiops truncatus*) are often seen feeding in this area (Elwen et al., 2011, in review.; Leeney et al., 2011) presumably on teleost fish. Although no data are available on the density of smaller prey such as krill or copepods around Pelican Point, krill has been seen washed up on the beach along this area suggesting prey suitable for the gray whale is available in the area. However, the bottom type in this area is a thick black mud, low in oxygen and rich in sulphur and unlikely to provide much nutrition for the whale.

DISCUSSION

To our knowledge, this is the first report of a gray whale in the South Atlantic and Southern Hemisphere as a whole, and it is likely one of the longest distances moved by any mammal (cf. Scheinin et al., 2011). Given the relative sizes of the ENP and WNP populations, it is most probable that the whale originates from the ENP population. Analysis of the genetic sample and a thorough comparison with existing catalogues should provide further insight in the origin of this whale. Although it may be in poor body condition, its residency for over a month within an area of known high productivity suggests it is feeding in the Walvis Bay area.

Acknowledgments

The Namibian Dolphin Project Research team (SE, TG, NT, RHL) would like to thank the Willi Deetleefs for reporting the whale, Jeanne Meintjies for confirming date records, Orlanda Sardinha and John Paterson for sharing their photographs with us and Jean-Paul Roux (Ministry of Fisheries and Marine Resources) for his support of our work. The NDP has been funded by a series of small grants from the Rufford Small Grants Foundation, British Ecological Society, the Mohammed Bin Zayed Foundation and the Nedbank Go Green Fund of Namibia. Research was conducted with permission from the Namibian Ministry of Fisheries and Marine Resources. Thanks to Tim Collins for presenting this paper to the IWC

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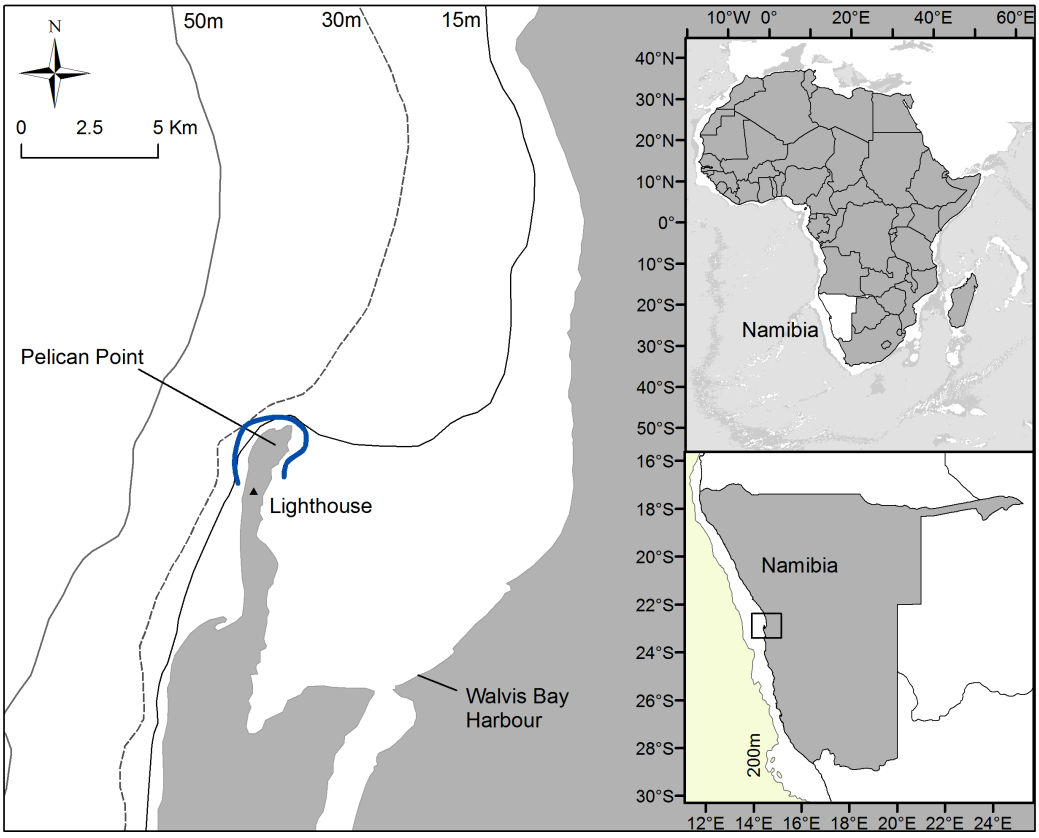

Figure 1. Walvis Bay, Namibia showing bathymetry, the location of the harbour, the Pelican Point peninsula and the area (blue line) where all sighting of the gray whale have occurred to date.

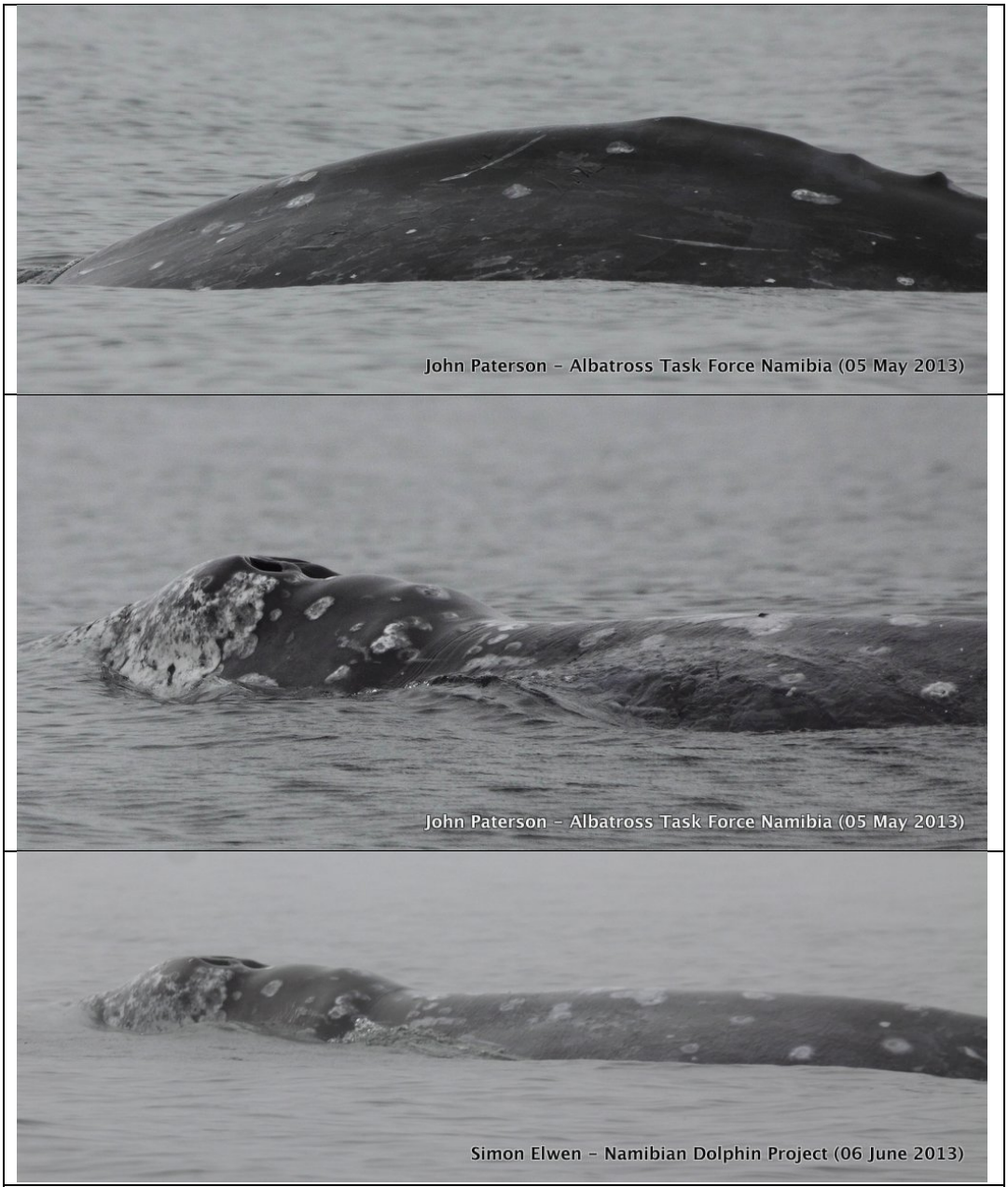

Figure 2. Images showing the head and left flank of the gray whale encountered in Walvis Bay Namibia on the day it was photographically confirmed (05 May 2013) and one month later (06 June 2013)