

Observation of a humpback whale *Megaptera novaeangliae* with calf in the shallow coastal waters of Suriname

Marijke N. de Boer^{1,2} and Tomas Willems^{3,4}

¹Wageningen IMARES, Institute for Marine Resources and Ecosystem Studies, Postbus 167, 1790 AD Den Burg, the Netherlands; ²Seven Seas Marine Consultancy, Postbus 1001GK Amsterdam, the Netherlands; ³Institute for Agricultural and Fisheries Research (ILVO) – Bio-environmental Research, Ankerstraat 1, 8400 Oostende, Belgium; ⁴Ghent University - Department of Biology - Marine Biology Section, Krijgslaan 281/S8, 9000 Gent, Belgium

Abstract

A large whale, accompanied by a calf, was seen in the shallow coastal waters of Suriname on 20 April 2013. Digital images confirmed the species identification as humpback whale *Megaptera novaeangliae*. This is the first confirmed record of humpback whales in Suriname. The observation was made at the extreme southern limit of the North Atlantic population's distribution and suggests that the waters along the northern coast of South America may be used for within-season movements between the different breeding and calving areas of the Wider Caribbean Region.

Keywords: Guianas, Suriname, humpback whale, breeding ground, *Megaptera novaeangliae*, Wider Caribbean Region

Introduction

Humpback whales (*Megaptera novaeangliae*; Borowski, 1781) that occur within the Wider Caribbean Region (WCR) travel thousands of kilometers between high-latitude (boreal) summer feeding areas in the North Atlantic and their winter Caribbean breeding and calving grounds (Mattila et al., 1989; Reeves et al., 2001a; Swartz et al., 2003). Whaling records indicate that these

whales were formerly common throughout the Lesser Antilles, along the Caribbean coast of Venezuela, in the Gulf of Paria and along the southern coast of Trinidad from January through May (Reeves et al., 2001a, 2001b). However, commercial whaling from the 1820s to early 1900s depleted the humpback whale populations in the region and nowadays the largest concentration is north of the Dominican Republic whilst

Correspondence to: Marijke N. de Boer, Wageningen IMARES, Institute for Marine Resources and Ecosystem Studies, Den Burg, the Netherlands. Tel: +31 0317 - 480900.
E-mail: marijkedeboer@sevenseasmarine.nl

Available on-line January 14, 2015

smaller concentrations occur off Puerto Rico and the Virgin Islands (Mattila et al., 1989; Reeves et al., 2001a; Swartz et al., 2003). Despite the encouraging status of humpback whales globally, concern remains about some subpopulations for which information about status is lacking or that are known to be small (Reilly et al., 2008). The areas

long the Lesser Antilles and the coast of Venezuela as far as Trinidad and Tobago continue to serve as nursing, mating, and possibly calving grounds but densities reported in the early 2000s appeared to be low (Stevick et al., 2003; Swartz et al., 2003; Silva et al., 2008).

Very little information exists on whales and dolphins in Suriname and its neighbouring countries Guyana and French Guiana, collectively known as the Guianas. The offshore cetacean community in Suriname waters has recently been described as primarily a tropical community dominated by odontocetes (De Boer; in press). It is suggested that mysticetes, particularly large balaenopterids, occur in the area on a seasonal basis. Bryde's or sei whales (*Balaenoptera cf. brydei/B. borealis*) were recorded offshore during the months of June and July and large balaenopterids were recorded in October (De Boer, in press). Although a total of nine cetacean species were recorded during these recent offshore surveys (May to October 2012), sightings of humpback whales remained unconfirmed (De Boer, in press). Aerial surveys carried out in French Guiana (September and October 2008) also failed to record the species (Mannocci *et al.*, 2013) but one unconfirmed sighting of two humpback whales was recorded at sea during boat surveys in October 2009 (Vines et al., 2010). No sightings have been made off Guyana but a humpback whale stranded in September 2009 (Kalamandeen and Chesney, 2013).

Here we report on the first confirmed sighting of humpback whales in Suriname.

Methodology

On 20 April 2013 two whales were observed and recorded on camera by the captain and crew of the shrimp trawler '*Noble Star*' while fishing for Atlantic seabob shrimp (*Xiphopenaeus kroyeri*). The observation was made around 14:00 (local time) and lasted for approximately 30 minutes. The sighting occurred in waters with a depth of 24.7 m at position 06°15'N 55°41'W at 27.5 km from the Suriname coast (Fig. 1). The environmental conditions during this encounter were favourable, with a slight sea state, good visibility and a swell of less than 1 m. Digital imagery subsequently made available were of poor quality and included one photograph of a surfacing large whale and a short video clip (1 minute and 13 seconds) of a smaller whale at close range to the vessel.

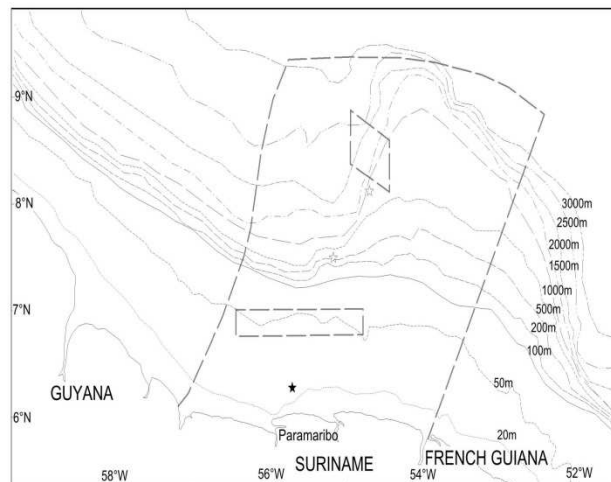


Figure 1. Location of the humpback whales (marked as a solid asterisk) observed on 20 April 2013 in shallow waters (24.7 m water depth) and the location of two large balaenopterid whales (unconfirmed humpback whale; open asterisks) further

offshore. The Exclusive Economic Zone of Suriname (large dashes) and the location of the previous offshore study areas (small dashed boxes) are shown together with isobaths up to 3000 m.

Results

Identification

The photograph and video material (Fig. 2 & 3; NZCS, 2013) show the presence of a distinct humped dorsal fin in both whales. From the video material it is further evident that the broad head was covered in knobs. Only on one occasion was half of the tail-fluke briefly exposed. The observed features together with relative size confirm the identification of both whales as humpback whales. Furthermore it is apparent that one of the whales is a calf.



Figure 2. Adult humpback whale surfacing at some distance from the FV Noble Star on 20 April 2013, 27.5 km from the coast of Suriname (© Emanuel David Cook).

Behaviour

From the materials it is evident that the calf already had some white scarring on the leading edge of the dorsal fin (Fig. 2a & d). The calf was swimming slowly and at times raised its relatively small head (Fig. 2c). Towards the end of the video it raised the head at a steeper angle ('chin out'). On occasion it was swaying the flukes side-ways

and shallow-arching the tailstock but without fully exposing the flukes (Fig. 2b). The adult whale appeared not to be at the surface during the video encounter which is in agreement with the comments made by the observers. It was further mentioned that the calf appeared 'playful', making close approaches to the vessel and remaining near the surface. The adult whale, presumed to be the mother, remained at further distance and was only occasionally seen surfacing. Both whales appeared to be slowly moving in a northward direction.

Discussion

From the digital materials it was evident that the encounter involved an adult humpback whale accompanied by a calf. The calf did not show the characteristics of a newborn calf as it was lacking any persistent fetal folds (Darling, 1983). Furthermore, the behaviour of the calf matches with reported behaviour displayed by mature humpback calves of approximately 3-4 months old, including spending considerable time resting at the surface, swimming with slow speeds and surfacing frequently alone (Cartwright & Sullivan, 2009). Additionally, it is not uncommon for an older calf to spend some time at the surface alone while the mother is on a longer dive (e.g. Cartwright & Sullivan, 2009).

Humpback whales in general show a preference for warm, shallow-water breeding and calving/nursing habitats (<100 m; e.g. Clapham, 2000) and this is also known within the region. For example, off Venezuela humpback whales were recorded in water with depths of between 38-91 m (Silva et al., 2008). The time spent in coastal waters allows humpback whale calves to gain strength before moving into deeper waters on the way to the feeding grounds in the northern North Atlantic. Furthermore, the shallow warm and calm waters on the

calving/nursing grounds are thought to offer more protection to vulnerable calves, particularly from predators such as killer whales (*Orcinus orca*) (Mobley et al., 2001; Baird et al. 2006).

Apart from the humpback whale that stranded in Guyana in September 2009 (Kalamandeen and Chesney, 2013) no humpbacks have previously been sighted or reported stranded within the Guianas (Husson, 1978; De Boer, in press). Nevertheless, historic sighting records in logbooks from whaling vessels mention that humpback whales were 'plenty' in deep waters to the east of Trinidad and Barbados (9°N 59°W & 12°N 53°W; Reeves et al., 2001a). At least two unconfirmed humpback whale records are known for Suriname (October 2012; De Boer, in press; Fig. 1) and one for French Guiana (October 2009; Vines et al., 2010) but photographs were not found to be conclusive. These unconfirmed records were made well offshore (but within the respective EEZs) and most likely involved humpback whales on their migration towards the Caribbean winter breeding grounds.

However, the possibility that humpback whales from the South Atlantic at least occasionally visit the southern or eastern Caribbean during the boreal summer cannot be ruled out (Reeves et al., 2001a). A study by Zerbini et al. (2004) showed that humpback whales are regularly found in coastal waters as far north as 5°S along the northeastern coast of Brazil. A humpback whale calf was found stranded in Ceará (west of the northwestern tip of South America in Brazil) in November 1997 (3°43'S, 38°30'W) and other strandings of calves or adults have occurred there since and mainly during the months of August-October; Meirelles et al., 2009). These records support that the humpback whales

from the South Atlantic may be moving west along the northern coast of Brazil (Zerbini et al., 2004).

The timing of the present sighting corresponds with the documented occurrence of humpback whales within the southeastern part of the Caribbean, e.g. in the ABC islands (Aruba, Bonaire and Curaçao), Colombia and Venezuela from November through April (Debrot & Barros, 1994; Debrot et al., 1998; Reeves et al., 2001a; Swartz et al., 2003; Silva et al., 2008; Fraija et al., 2009; Luksenburg, 2013; Geelhoed et al., 2014). Previous surveys have indicated that some inter-island movements between the Eastern Caribbean and other breeding and calving areas in the West Indies occurs (Mattila et al., 1989; Mattila and Clapham 1989; Kennedy et al., 2013). The present observation therefore contributes to the understanding that individual humpback whales may circulate during the main winter season (January-May) between the primary breeding aggregations and the extreme southern limits of the population's distribution along the northern coast of South America (Reeves, 2005).

The general lack of data available for humpback whales and other cetaceans within the Guianas highlights the urgent need for increased systematic survey effort at sea (year-round) in order to provide a better understanding of their occurrence and seasonality. Taking into account the importance of critical breeding regions for humpback whales and the fact that so little is known about the threats and conservation status of these large whales we recommend a precautionary approach when addressing risks and when making decisions regarding the protection of humpback whales within the Guianas.



Figure 3. Screen grabs of video materials showing the humpback whale calf at close range from the FV *Noble Star* on 20 April 2013, 27.5 km from the coast of Suriname (© Emanuel David Cook).

Acknowledgements

The authors would like to thank the captain and crew of the FV *'Noble star'* for their valuable observations and for permission to document the digital images. We thank C. Weir (Ketos Ecology), S.C.V. Geelhoed (IMARES), D. Risch (Scottish Association for Marine Science) and J. Robbins (Center for Coastal Studies) for their valuable comments regarding the behaviour of these whales. Finally, we are grateful for A. Gangadin of the Zoological Collection of Suriname for archiving this interesting record and making it available online.

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Figures

Figure 1.

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Figure 2.

Adult humpback whale surfacing at some distance from the *FV Noble Star* on 20 April 2013, 27.5 km from the coast of Suriname (© Emanuel David Cook).

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Screen grabs of video materials showing the humpback whale calf at close range from the *FV Noble Star* on 20 April 2013, 27.5 km from the coast of Suriname (© Emanuel David Cook).