

## Facilitation of post-release, long-term recognition of a rehabilitated gray whale calf: Pigmentation and scar patterns of JJ

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### Abstract

I made and archived a series of photographs of the pigmentation patterns and body scars on a rehabilitated gray whale, *Eschrichtius robustus*, (JJ) just before her return to the Pacific Ocean in March 1998. These features should allow her to be distinguished from other whales that strand and from free-ranging whales that are being monitored with photo-identification techniques along the coastlines of the north Pacific Ocean.

Key words: gray whale, color patterns, scar patterns, photo-identification.

### Introduction

Photographs of color patterns and body scars have been used for short- and long-term identification of a number of cetaceans, including gray whales, to provide data on demographic parameters, behavior, and migrations (e.g., Hammond *et al.*, 1990; Calambokidis *et al.*, 1994; Megill *et al.*, 1999).

### Materials and Methods

To facilitate recognition of a rehabilitated gray whale calf, *Eschrichtius robustus*, (JJ) after her return to the Pacific Ocean in March 1998, I made a series of digital black and white and color 35-mm photographs of JJ's entire body surface to document pigmentation patterns and scars, particularly of unique markings (Figs. 1 & 2). I also attached a small colored spaghetti tag, anchored just below the skin surface, behind JJ's blowhole (Fig. 3) to allow discrimination from beach-cast whales whose skin may have decomposed before examination. A small poster of identifying features (Fig. 4) was distributed to marine mammal rehabilitation facilities and participants in regional stranding networks on the west coast of North America prior to JJ's release. The distribution of these images was limited, by request of the U.S. National Marine

Fisheries Service, to prevent disturbance to JJ by enthusiastic whale-watchers with otherwise good intentions who might be interested in searching for her when again ranging-free in the north Pacific Ocean.

### Results

Despite relatively large, anomalous numbers of stranded gray whales discovered along the west coast of North America in 1998, 1999, and 2000 (National Marine Fisheries Service, 2001; The Marine Mammal Center, 2001), none were identified as JJ from either comparisons of color patterns or the presence of the spaghetti tag.

### Discussion

In 1997, the Makah Indian Tribe in Washington State was issued a quota by the International Whaling Commission, and congruent under agreement of the U.S. National Marine Fisheries Service with treaty rights established between the U.S. Federal Government and the Makah Tribe<sup>1</sup>, to harvest up to five gray whales. There was consequently much concern that JJ might be harvested as she migrated north in spring 1998. Although no whales were harvested in 1998, the Makah Tribe did take a young female gray whale on 17 May 1999 and there were immediate fears, suggestions and claims that the whale was JJ. Consequently, I compared all available photographs that were posted on the Makah Nation's website ([www.makah.com](http://www.makah.com)) and in various newspaper and television stories with the archived photos of JJ. It was clear from comparison that the harvested whale was not JJ (*cf.* Fig. 5). Although there remain some questions about the uniqueness and developmental stability of pigmentation patterns in marine mammals that might affect unequivocal identification of individuals, several large and clear scars on JJ's body should allow unambiguous,

<sup>1</sup>Treaty of Neah Bay, 1855.

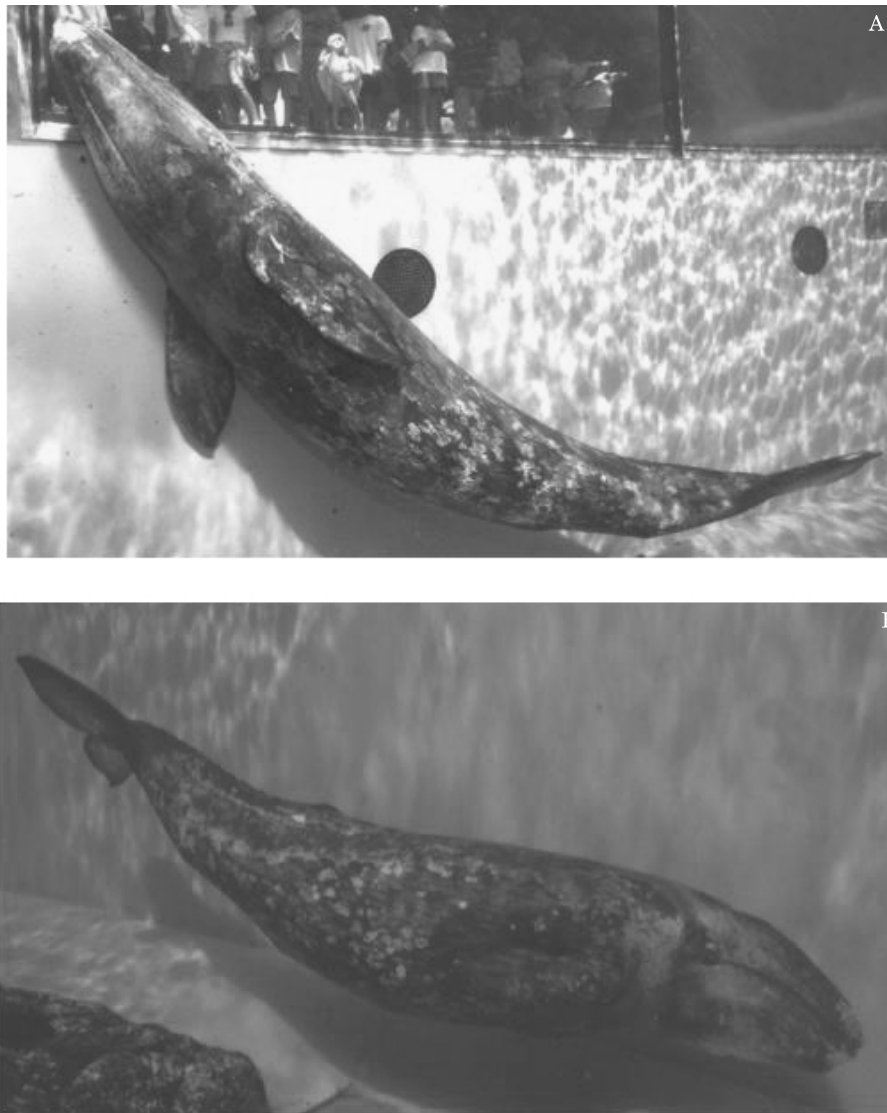


Figure 1. General views of JJ's color patterns, (A) left side, (B) right side.

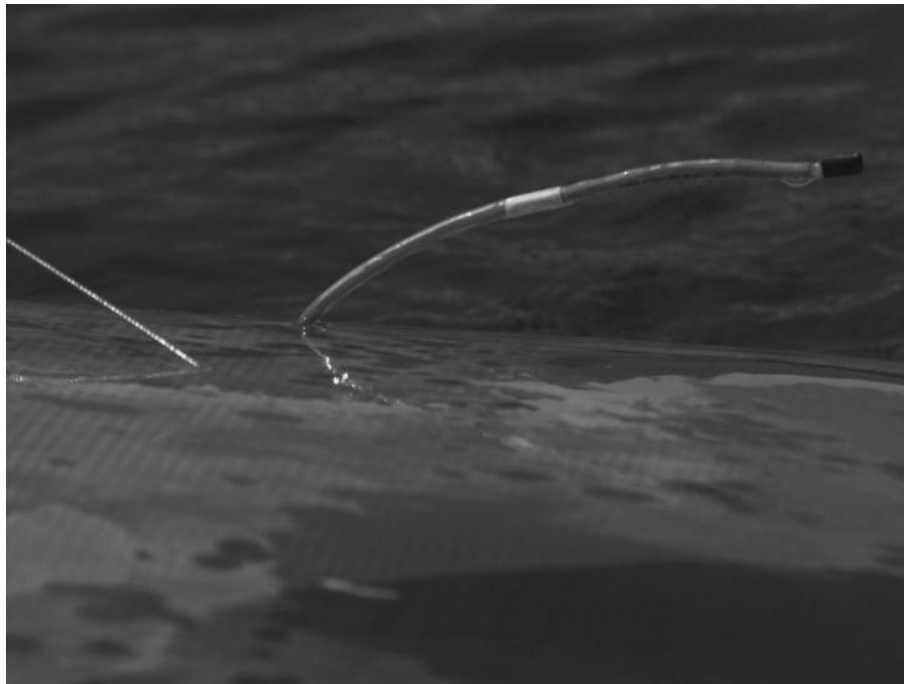
long-term identification of her from photos of other free-ranging, live-stranded, or dead gray whales.

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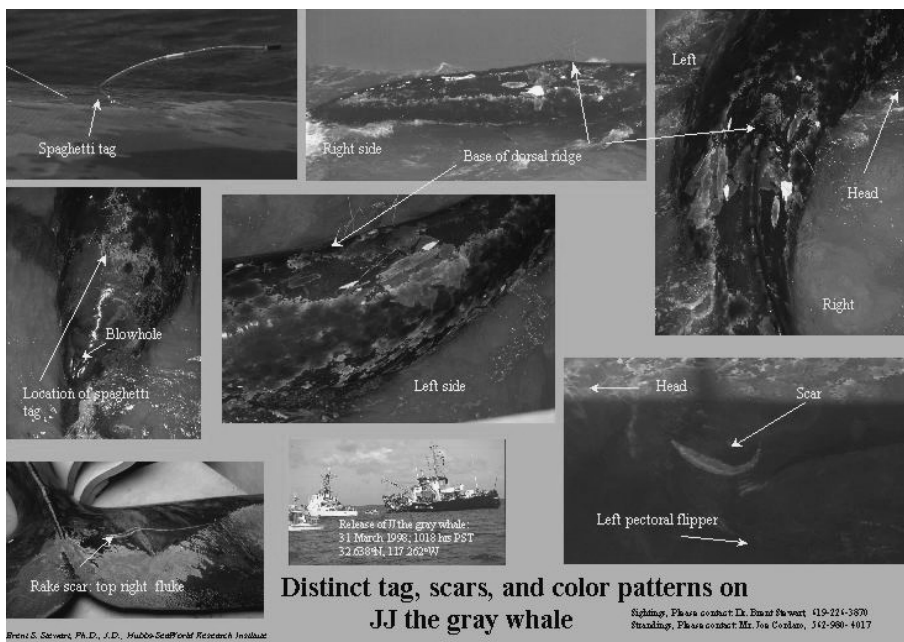
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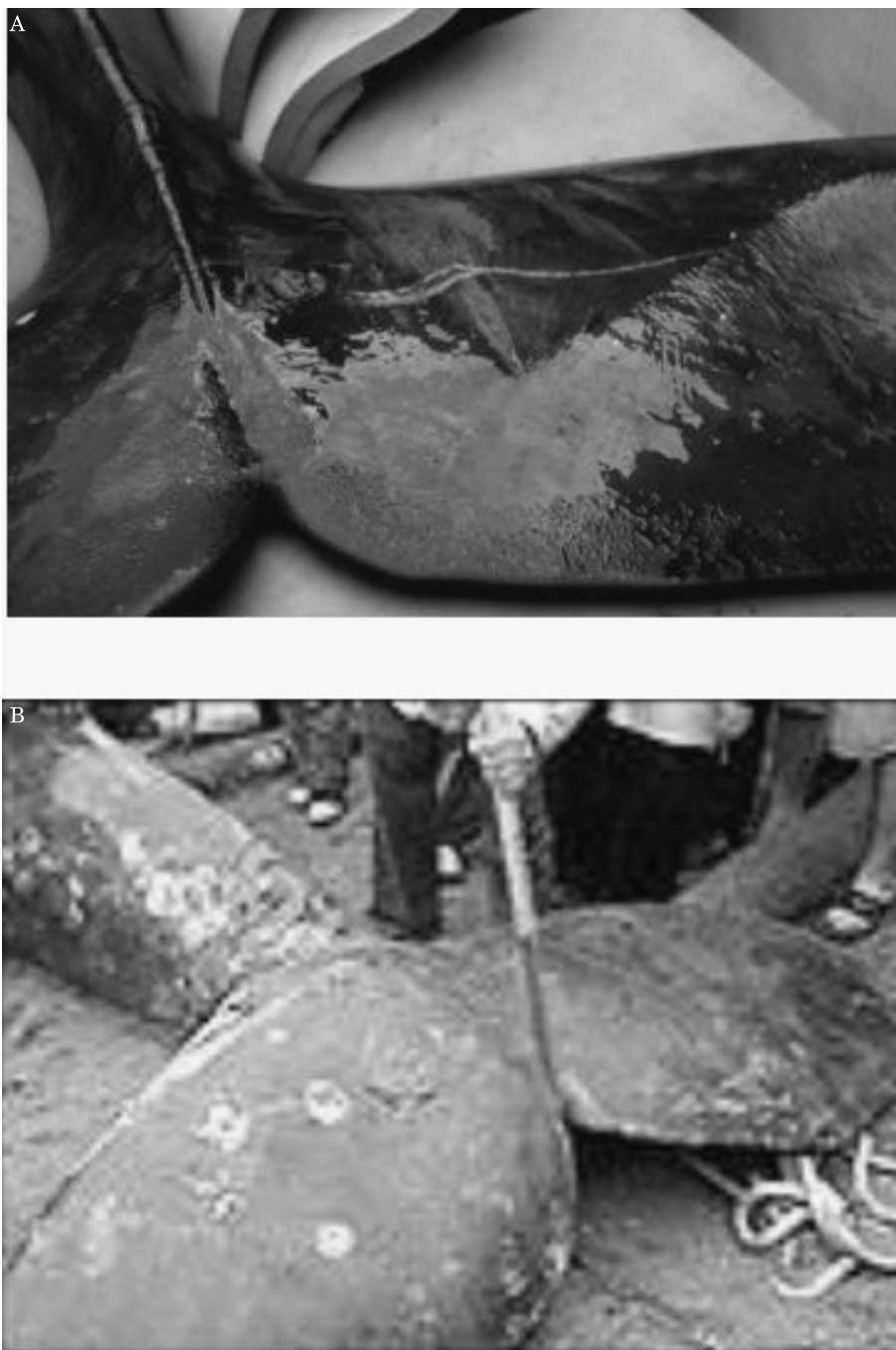
**Figure 2.** Key scar and color patterns of JJ, (A) underside of tail fluke, (B) scar above left pectoral flipper, and (C) scar on dorsal surface of tail fluke.



**Figure 3.** Close-up view of spaghetti tag attached to JJ with subdermal anchor, dorsal midline behind blowhole.



**Figure 4.** Poster showing color patterns of JJ that was distributed to marine mammal rehabilitation centers and stranding network participants.



**Figure 5.** Dorsal surface of JJ's fluke showing scar on (A) right side and (B) dorsal surface of gray whale harvested by Makah whalers on 17 May 1999.

