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North Pacific right whale (*Eubalaena glacialis*) sighting South of Baja California

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Abstract

On 20 February 1996, during an aerial survey along the Baja California Peninsula, we observed a single right whale (*Eubalaena glacialis*) at 23°02′N 109°30′W, south of the southern point of the peninsula. This is the third sighting reported south of California, US and extends the known range of this species 540 km south. A review of the right whale's seasonal distribution along the southwestern coast of North America based on all sightings reported to date suggests a pattern of migration to lower latitudes in winter.

Key words: *Eubalaena glacialis*, North Pacific, range

Introduction

The northern right whale (*Eubalaena glacialis*) is the most endangered whalebone whale in the world (NMFS, 1991). Exploited to near extinction in the mid-1800s, little is known about the North Pacific population. Whaling logs provide some information about the Northern Pacific right whale summering grounds, but little is known of the winter distribution, and no breeding ground has been identified. Since the International convention for the Regulation of Whaling banned hunting of right whales in 1935, there have been no signs of recovery and only a few sightings in the eastern North Pacific (Scarff, 1986; 1991). We report this sighting, which was approximately 540 km further south than any previous observation of this species in the eastern North Pacific.

On 20 February 1996, while conducting a line transect aerial survey for blue whales along the coasts of the Baja California peninsula, we encountered a single right whale at 23°02′N, 109°30′W, 23 km south of San Jose Del Cabo, Baja California Sur (Fig. 1). The right whale was first sighted while we were flying in off-effort mode at an altitude of approximately 300 meters. Four sequential whale spouts were observed and the airplane, a Cessna 182, proceeded directly to the area for species confirmation. At this point, positive identification of the right whale was made. The observation lasted between 1149 and 1245 local time. The whale was tracked between dives using a Global Positioning System. During this 56 minute period, the whale moved approximately 0.4 km eastward in waters with an average depth for this area of about 225 meters. The clarity of the water allowed us to continue to observe the whale during its dives, most of which were shallow. While the whale was at the surface (Fig. 2), we observed the whale with its mouth closed, suggesting no surface feeding was occurring. We clearly observed the diagnostic features of this whale, including the distinctive V-shaped blows, black back with no dorsal fin, strongly bowed lower jaw, callosities on the head and lower jaw, and the wide tail flukes that were raised in the air once as the animal sounded. No aerial behavior such as breaching or spyhopping and no interaction with humpback whales (*Megaptera novaeangliae*) and bottlenose dolphins (*Tursiops truncatus*) found in the same area, was observed. We visually estimated the length of the right whale to be about the same as that of the adult humpback whales observed in the vicinity (12 to 15 meters).

Photographs were taken while circling over the whale, at altitudes ranging from 150 to 300 meters using a 35 mm camera with a 200 mm telephoto lens and a motor drive. Kodak color and Fuji 100 ISO film were used. Vertically positioned photographs were taken for individual identification. The quality of the photographs was sufficient for individual identification, using the callosity pattern on the animal's head (Kraus *et al*., 1986). Copies of these photographs were sent to James Carretta at

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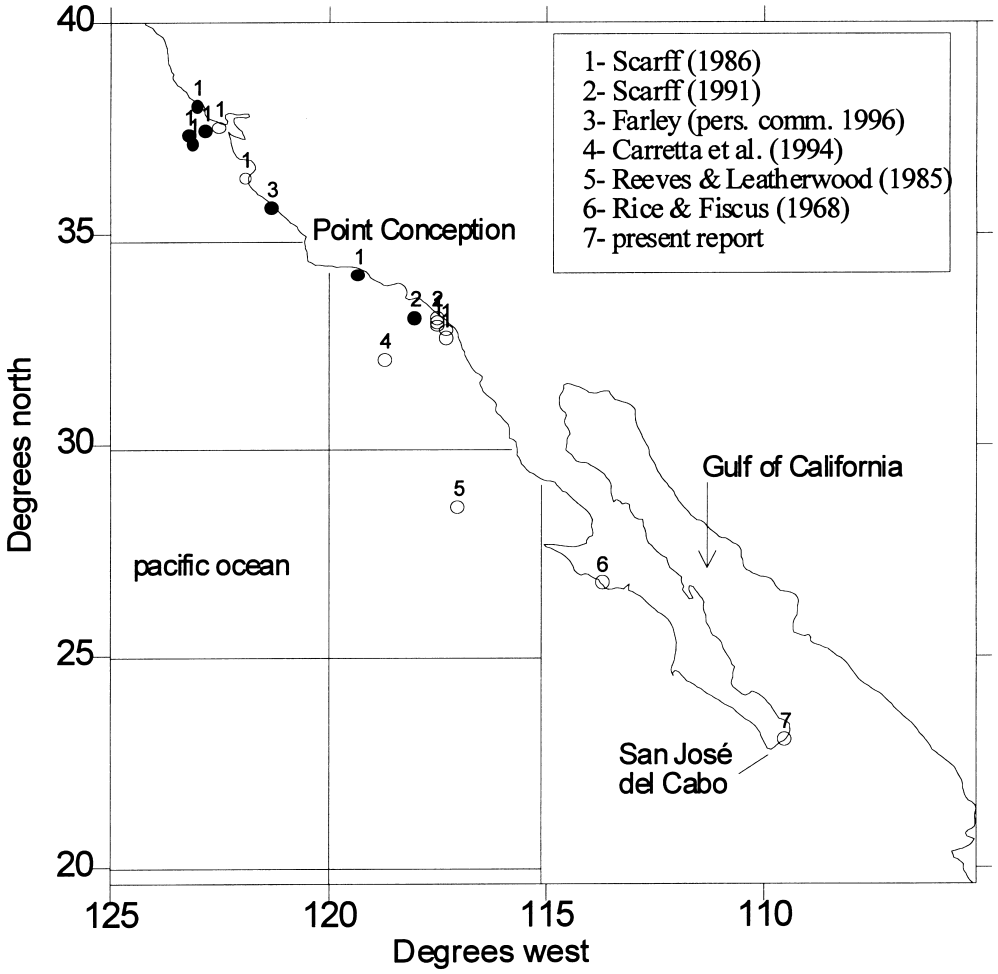

Figure 1. Distribution of the North Pacific right whale sightings and landings along the southwestern coast of North America. Winter sightings (January to April 5) are represented by open circles; spring sightings (April 5 to June) by filled circles. Each sighting corresponds to a reference number cited in the upper corner. One degree square represent the Maury search areas taken from Scarff (1991).

the US National Marine Fisheries Services Southwest Fisheries Science Center in La Jolla, California, for comparison with other recent right whale sightings: one observed off Hawaii (Herman *et al.*, 1980), one sighted off California (Carretta *et al.*, 1994) and a third one seen off Washington state (Rowlett *et al.*, 1994). He concluded this new right whale was a different animal. Furthermore the white flank patch and paler area on the back of the right whale seen off Baja, represent unique diagnostic features to this individual.

This sighting contributes to the small body of information existing of the winter distribution of the North Pacific population. Specific wintering or breeding grounds have never been identified. It was postulated that the right whale might once have wintered off Oregon and northern California (Gilmore, 1956), but this contention was dismissed for lack of either archaeological evidence or data from whaling catches during the early period of exploitation (Scarff, 1986). Herman *et al.* (1980) suggested that the breeding area for this population was near the Hawaiian Islands. This hypothesis was criticized in Scarff (1986) because of the lack of sightings near the islands despite the high level of whaling effort in the area. It was concluded that right whales were not common in the Hawaiian region for the last 160 years (Rowntree *et al.*, 1980; Scarff, 1986). Recently, extensive research of the historic distribution and abundance of the right whale in the North Pacific was conducted, based on the Maury Whale Charts (Scarff, 1986; 1991). Scarff

Figure 2. Aerial photograph of the right whale observed south of San José del Cabo, Baja California Sur, Mexico showing the callosities on the head.

concluded, based on the absence of strandings, catches, or sightings of newborn or young calves along the eastern North Pacific coast during the past 150 years, that the North Pacific right whale probably never possessed a coastal breeding ground (Scarff, 1986; 1991). Instead, this author presented some evidence of higher number of whaling catches in regions far offshore and suggested that the population may have calved offshore (Scarff, 1986; 1991).

During the time when right whales were more abundant in the North Pacific, there were few sightings along the North American west coast based on the Maury Whale Charts (Scarff, 1986). However, these seasonal charts do not include search effort in coastal areas south of latitude 25° (see Fig. 1). In other words, these charts do not include southern Baja California or the Mexican coast.

By 1855, when Charles Scammon discovered the Baja lagoon in which gray whales (*Eschrichtius robustus*) breed (Scammon, 1968), intensive exploitation of right whales had already reduced the eastern North Pacific population. Even so, he stated: 'some, indeed, have been taken (from February to April) as far south as the Bay of San Sebastian Viscaino, and about Cedros or Cerros Island, both places being near the parallel of 29 north Latitude' (Scammon, 1968; p. 66–67). In addition to the Scammon information, there are two reports of right whale sightings south of the California coast (Fig. 1). Two right whales were reported east of Guadalupe Island on 4 April 1856 at 28°30′N, 117°00′W (Reeves & Leatherwood, 1985). The other sighting was two large right whales observed south of Punta Abreojos on 11 March 1965 at 26°39′N, 113°40′W (Rice & Fiscus, 1968).

Most of the sightings in the southern California waters were recorded during spring (Scarff, 1986), including Scammon's observations (Scammon, 1968). Sighting data published in Scarff (1986, 1991) and recent reports (Carretta *et al*., 1994; Farley, pers. com., 1996) indicate a general trend towards south to north movement. Most whales were seen during winter (January to April 5) south of Point Conception, California. In contrast, during spring (April 5 to June), observations primarily occurred north of Point Conception (Fig. 1). This apparent seasonal movement might indicate that there is or was once a coastal breeding ground south of California. The lack of historical whaling records of the presence of whales, in the Gulf of California or along the mainland coast of Mexico are not sufficient reasons for discarding that

possibility. Only in recent times has the presence of most baleen whales in these areas been described. Moreover, the Baja California waters represent known calving or nursing areas of all migrating mysticete species to this area: *E. robustus* (Scammon, 1968), *M. novaeanglia* (Urbán-R. & Aguayo-L., 1987), *Balaenoptera musculus* (Sears, 1987), and non migrating species: *Balaenoptera physalus* (Rojas, 1984), *Balaenoptera edeni* and possibly *Balaenoptera acutorostrata* (Tershy *et al*., 1990).

This sighting of a North Pacific right whale south of the Baja California peninsula may represent more than just the addition of another individual to the few remaining members of this species. The presence in winter of a right whale at this location indicates that the wintering range of this population may be greater than was previously thought.

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