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A Note on Gray Whale Behavioral Interactions with Other Marine Mammals

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With the exception of reports of killer whales, *Orcinus orca*, attacking gray whales, *Eschrichtius robustus*, (Scammon, 1874; Andrews, 1914; Gilmore, 1961; Burrage, 1964; Morejohn, 1968; and Baldridge, 1972) there are no accounts in the literature on the behavioral interactions between gray whales and other marine mammals. During aerial surveys of southern California cetaceans, (Leatherwood, 1974), I often observed gray whales in close association with other marine mammals (Figure 1). Though the abundance of all these species in the area during the winter and spring makes coincidental association likely, the following incidents represent behavioral interaction:

Four days after her release, when she was first relocated by aircraft, the gray whale Gigi (Evans, 1974) was swimming with a small group of Pacific bottlenose dolphins *Tursiops* sp. in the surf zone just north of the San Clemente, Calif. pier. Though the dolphins left the whale shortly after the aircraft began to circle the area, when first seen they were closely clustered about the head of the gray whale as if riding its pressure wave. Since Gigi was housed during almost her entire internment at Sea World with an Atlantic bottlenose dolphin, *Tursiops truncatus*, this association in the wild may have been a result of the captivity. However, I have observed gray whales swimming with bottlenose dolphins in the wild in six other instances, in three of which the porpoises were also riding the whales' pressure waves. Further, bottlenose dolphins are common along the Baja California portion of the gray whales' migration route and in the breeding lagoons and have been reported moving freely among California gray whales (Evans and Dreher, 1962).

On 19 January 1972, three adult gray whales were observed heading southwest over Sixty-Mile Bank (lat. 32°05'N, long. 118°10'W). The entire area was rich with birds and the surface action of many schools of small fishes and a large aggregation of odontocetes (including over 1,000 northern right-whale dolphins, *Lissodelphis borealis*, approximately 500 Pacific common dolphins, *Delphinus delphis*, approximately 500 North Pacific white-sided dolphins, *Lagenorhynchus obliquidens*, and at least 3 Dall porpoises, *Phocoenoides dalli*) was present. The whales were observed at close range from a helicopter for nearly 45 minutes and dolphins and porpoises were observed riding the pressure waves of the whales for the entire time. All species were involved in the interaction.

In addition, during this same period gray whales were observed riding the large glassy swells which moved through the area. This behavior is common among small dolphins (e.g., *Tursiops, Delphinus, Lagenorhynchus, Lissodelphis*) and is perhaps not surprising for the gray whale in the light of its reported surf-riding (Caldwell and Caldwell, 1963).

In March 1971, several gray whales were observed along the west side of Catalina Island where an estimated 200 pilot whales, *Globicephala* sp., were distributed in small groups from Ben Wesson Point to the northwest tip of the island. One gray whale was turned belly up in the midst of a pod of 12 or 15 pilot whales, and an adult pilot whale was swimming over the belly of the inverted gray whale. Both were alarmed by the aircraft and sounded on our approach.

In the other instances (Figure 1) the animals were simply swimming close to each other. With one exception, that of Gigi, all the observed associations between gray whales and other cetaceans involved adult whales.

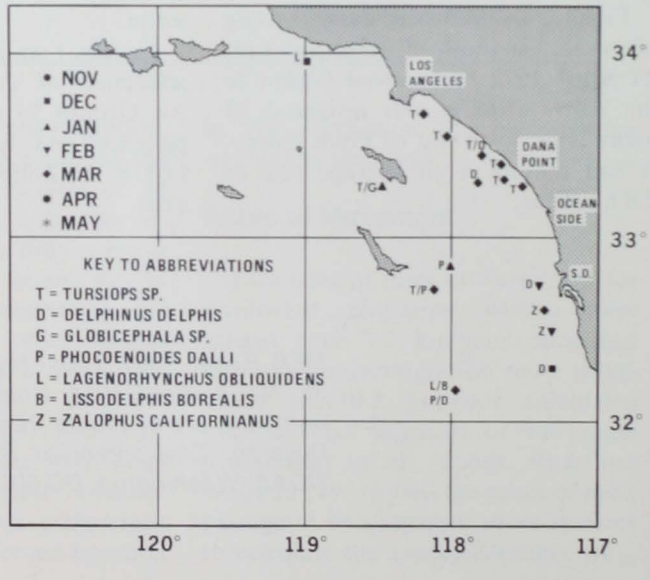

Figure 1.—Locations of sightings of gray whales associated with other marine mammals (1969-1972).

all greater than 30 feet in length. Furthermore, in all cases the gray whales have appeared to be passive participants in the interaction.

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Aerial Observations of Gray Whales During 1973

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During their annual southward migration California gray whales, *Eschrichtius robustus*, were observed between Monterey Bay and Point Sur, Calif. (Figure 1) from an aircraft during the period 15-23 January 1973. An aerial survey was initiated in response to recommendations of the Joint Naval Undersea Center—National Marine Fisheries Service (NMFS), Southwest Fisheries Center Gray Whale Workshop (held in La Jolla, California in August 1972), that the accuracy of the annual NMFS shore census taken near Yankee Point be checked. The survey was designed to compare shore observers' estimates of numbers with those of aerial observers; to test the estimate that 95 percent of the gray whales migrating by Yankee Point pass within 1.9 km (1.2 miles) of the shore (Rice and Wolman, 1971); and to provide observations of gray whale behavior and associations with other marine mammal species. The utility of aerial surveys in cetacean research has been demonstrated by Levenson (1968) and Leatherwood (1974a,b). This paper reports on simultaneous shore and aircraft observations and discusses the problems inherent in each method.

METHODS

Five flights, totaling 13.6 hours, were made between Monterey Bay and Point Sur, Calif. (Figure 1) in a Cessna 172 flown by a professional spotter-pilot at altitudes ranging from 150 m (500 ft) to 900 m (3,000 ft). Radio communications with shore observers permitted coordination of observational efforts. Time, location, numbers of whales, and behavior observations were noted for the sightings and photographs were attempted on occasion.

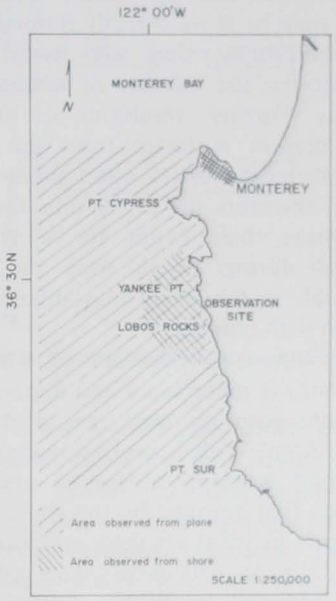

Figure 1.—The area off California observed for gray whales, 15-23 January 1973.

RESULTS AND CONCLUSIONS

From the aerial observations made in the sector scanned by shore observers, the following points were determined: Of 24 paired observations (individuals or groups observed by both air and ground personnel), initial visual contact was made by a ground observer in eight instances and by an airborne observer in ten instances. Hence, ground and aircraft observers apparently were equally adept at initially sighting whales. Of the 24 paired sightings, the aerial observers were able to correct the

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