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Fin Whale Sighting North of Kaua'i, Hawai'i¹

J. R. MOBLEY, JR.,² M. SMULTEA,³ T. NORRIS,⁴ AND D. WELLER⁵

ABSTRACT: A rare fin whale (*Balaenoptera physalus*) sighting occurred on 26 February 1994 during an aerial survey of waters north of the Hawaiian island of Kaua'i. The sighting occurred ca. 24 nm north of Mākaha Point, at 22° 31.5' N, 159° 44.5' W. The fin whale was accompanied by an adult humpback whale (*Megaptera novaeangliae*) during the entire 25 min of observation. Fin whales are not unknown in Hawaiian waters, but the most recent confirmed sighting on record for Hawaiian waters was 16 February 1979.

ON 26 FEBRUARY 1994, during a marine mammal aerial survey of waters north of the Hawaiian island of Kaua'i, a large balaenopterid whale was sighted ca. 24 nm north of Mākaha Point (22° 31.5' N, 159° 44.5' W) in waters of ca. 2000 fathoms (3700 m). The whale was circled for 25 min at an altitude of 250 m, during which time verbal observations of behavior and diagnostic characteristics were recorded on audio tape and still photographs and video footage were collected. Approximately 4 min after the initial sighting, a large adult humpback whale (*Megaptera novaeangliae* Borowski, 1781) was sighted within one whale-body length of the balaenopterid and in the same general orientation. The humpback remained in association with the balaenopterid throughout the entire observation period, but was visible only upon surfacings spaced ca. 10 min apart. The presence of the humpback whale afforded an opportunity for interspecific comparisons of relative size and behavior (Figure 1).

Real-time identification of the balaenopterid whale was made difficult by anomalous lighting conditions resulting from glare and

sun-streak effects; however, the tentative identification by the survey team was that of a fin whale (*Balaenoptera physalus* Linnaeus, 1758). In an attempt to validate this tentative identification, a panel of eight reviewers, all skilled in the identification of balaenopterids in the field and from the air, was asked to provide their respective identifications after review of photographs, videotape, and field notes provided by the survey team. Each of the reviewers identified the subject as a fin whale; however, only four of them expressed a high degree of confidence in their identification.

Positive identification was made difficult by the fact that not all of the distinguishing characteristics typically used to identify fin whales were present or clearly visible (i.e., chevron and white coloration on right lower jaw). Observations of the whale from the aircraft clearly showed the slender fusiform body shape of a balaenopterid. After repeated passes at constant altitude, the suggestion of some white coloration on the right lower jaw was noted and was also subsequently noted from portions of the video footage, but in neither case was this observation clear enough to rule out the possibility of reflection from the water's surface. Similarly, a characteristic dorsal chevron was not clearly visible during observations; however, this feature is not universal in all fin whales (Leatherwood et al. 1988). The clearest diagnostic characteristics observed were the shape of the head, shape of the flukes, size and placement of the dorsal fin, and the

¹ Manuscript accepted 27 September 1995.

² Social Sciences, University of Hawai'i-West Oahu, 96-043 Ala 'Ike, Pearl City, Hawai'i 96782.

³ Foster Wheeler Environmental, Inc., 10900 NE 8th St., Bellevue, Washington 98004-4405.

⁴ Moss Landing Marine Laboratories, P.O. Box 450, Moss Landing, California 96039-0450.

⁵ Marine Mammal Research Program, Texas A&M University at Galveston, 4700 Avenue U, Bldg 303, Galveston, Texas 77551-5923.



FIGURE 1. Fin whale sighted in waters north of Kaua'i, Hawai'i (26 February 1994, 22° 31.5' N, 159° 44.5' W). Shown with accompanying adult humpback whale (above) and after breaking surface to blow (below) (photos by M. Smultea).

estimated body length. The head shape was intermediate between a U shape and a V shape, relatively flat, and characterized by a single, prominent median ridge. The flukes were slender and rather narrow from vertebral insertion to fluke notch. The dorsal fin was relatively large and clearly falcate, appearing on the caudal third of the body. Based on a series of measurements taken from the photographs and video images, and the fact that the humpback whale accompanying the fin whale was judged to be a large adult, ca. 16 m long, body length was estimated by S. Leatherwood (pers. comm.) to be ca. 22–23 m. The prominent falcate dorsal fin and more V-shaped head appeared to rule out identification as a blue whale (*Balaenoptera musculus* Linnaeus, 1758), and the estimated body size also ruled out a sei whale (*Balaenoptera borealis* Lesson, 1828) or a Bryde's whale (*Balaenoptera edeni* Anderson, 1878) as possibilities (Leatherwood et al. 1988).

During the entire observation session, the whale remained motionless just beneath the surface of the water, rising vertically only to breathe. Surfacing behavior was characterized by the top of the head breaking the surface first, a gradual arching of the back while rolling forward, and finally exposure of the dorsal fin. The head and the dorsal fin were not observed at the surface simultaneously. The blow characteristic was columnar for approximately the first half of the blow and developed into a bushy appearance toward the latter half of the blow. The blow was very tall and powerful, extending 4–5 m into the air.

Fin whales are not unknown in Hawaiian waters, but are sufficiently rare to be worthy of note. Balcomb (1987) reported 8 to 12 fin whales ca. 400 km south of Honolulu on 20 May 1966 and noted another sighting "near Hawaii" as well as a stranding, without further detail. Shallenberger (1981) reported a sighting made by National Marine Fisheries Service personnel north of O'ahu in May 1976. Rice (cited in Shallenberger 1981) sighted a lone fin whale at 21° 24' N, 158° 23' W in the Kaua'i Channel on 16 February 1979. Nitta (1987) noted a single stranding of

a fin whale off Kohakuloa, Maui, between 1936 and 1988, but gave no specific date. An acoustic monitoring study, recording from two bottom-mounted hydrophones located off northern O'ahu, identified fin whale vocalizations during every month of the year except June and July during the period December 1978 to April 1981 (Thompson and Friedl 1982).

Fin whales of the eastern North Pacific show seasonal variations and range as far north as the Bering Sea to as far south as central Baja California (Leatherwood et al. 1988). Tagging of fin whales has revealed movement from winter (November–January) grounds off southern California to summer (May–July) grounds off central California, Oregon, and British Columbia, and into the Gulf of Alaska. They are believed to winter far offshore of the North American coast, during which time sightings in Hawaiian waters are more likely. Leatherwood et al. (1988) estimated the North Pacific population of fin whales to be ca. 16,000.

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LITERATURE CITED

- BALCOMB, K. C., III. 1987. The whales of Hawaii. Marine Mammal Fund, San Francisco, California.
LEATHERWOOD, S., R. R. REEVES, W. F. PERRIN, and W. E. EVANS. 1988. Whales,

- dolphins and porpoises of the eastern North Pacific and adjacent Arctic waters. Dover Publications, New York.
- NITTA, G. 1987. The marine mammal stranding network for Hawaii: An overview. Pages 55–62 *in* J. E. Reynolds III and D. K. Odell, eds. Proceedings of the 2nd Marine Mammal Stranding Workshop, Miami, Florida, 3–5 December 1987. National Technical Information Service, Springfield, Virginia.
- SHALLENBERGER, E. W. 1981. The status of Hawaiian cetaceans. Final Report to U.S. Marine Mammal Commission. Report No. MMC-77/23. (Available from National Technical Information Services, U.S. Department of Commerce, Springfield, Virginia 22151.)
- THOMPSON, P. O., and W. A. FRIEDL. 1982. A long term study of low frequency sounds from several species of whales off Oahu, Hawaii. *Cetology* 45: 1–19.