Three ecotypes of killer whale (*Orcinus orca*) have been described in the waters of the northeast Pacific Ocean; these are referred to as “resident,” “transient,” and “offshore” whales (Bigg et al. 1990, Ford et al. 1992, Ford and Ellis 1999, Ford et al. 2000, Baird 2001, Hoelzel 2002). These ecotypes differ in diet, morphology, genetics, social organization, behavior, vocal habits, and geographic range (Baird and Stacey 1988, Stevens et al. 1989, Barrett-Lennard et al. 1996, Ford et al. 1998, Hoelzel et al. 1998, Ford et al. 2000, Baird 2001, Hoelzel 2002). The least well known of these are the offshore whales with little information available on their behavioral or ecological characteristics (Baird 2001).

While it has been shown that transient whales likely feed exclusively on marine mammals and resident whales likely feed exclusively on fish, very little is known about the diet of offshore whales (Ford et al. 1998, Baird 2001, Barrett-Lennard and Ellis 2001, Heise et al. 2003). The only account of the diet of offshore killer whales in the literature to date comes from an analysis of the stomach contents of two dead whales that contained salmonid bones (*Oncorhynchus sp.*) and sculpin (*Cottus sp.*) remains, indicating that these fish may make up a portion of their diet (Heise et al. 2003).

On 22 and 23 June 2000, 30–50 offshore killer whales were observed and photographed off Juan Perez Sound, Queen Charlotte Islands, British Columbia (52°30′N, 131°22′W). These whales were thought to be offshore killer whales based on their geographic location, large group size, high rate of vocalization, predation on fish, consistent travel pattern, and an absence of individuals that matched published resident identification catalogs. Transient whales are seen frequently in the area but seldom travel in groups larger than five, often have erratic travel and diving patterns, vocalize infrequently, and feed on marine mammals (Bigg et al. 1990, Baird and Dill 1996, Barrett-Lennard et al. 1996, Ford et al. 1998, Ford and Ellis 1999). Resident whales vocalize often and feed on fish but infrequently form groups of this size and are not seen with regularity in the Queen Charlotte Islands (Bigg et al. 1990, Ford et al. 1998, Baird 2001). Subsequent photographic comparison with cataloged offshore whales indicated that offshore whales O9, O105, O251, and
On 23 June 2000 I observed and obtained photographic evidence of O251 feeding on a large flat fish at the water surface. A photographic approximation of the length of this flat fish (0.95 m) was made in the interest of identifying it to species. This was accomplished by first scaling the photograph at the depth of field at which the fish was located. This scale factor was based on comparing the height of the killer whale’s dorsal fin in the photo to that of the average reported for female killer whales from the literature (Clark and Odell 1999). The caudal fin of the flatfish was clearly visible at this depth of field and therefore was utilized to approximate the length of the fish. A ratio of caudal fin width to body length, based on measurements taken from 50 Pacific halibut (*Hippoglossus stenolepis*) within unpublished data, was supplied for this purpose by the International Pacific Halibut Commission.

Based on the observed coloration and the large photographic size approximation of this flatfish (0.95 m) it was likely a Pacific halibut. The Pacific halibut can attain a length of 2.67 m while the starry flounder (*Platichthys stellatus*), the next largest flatfish in the waters of coastal British Columbia, only attains a maximum recorded length of 0.91 m (Lamb and Edgell 1986). In addition, the starry flounder has prominent dark bands visible on the caudal fin (Grant *et al.* 1996) which are not present on the photographed specimen in question. This sighting provides the first evidence that the Pacific halibut makes up at least a portion of the diet of offshore killer whales in the region. To my knowledge this is the first direct observation in the primary literature describing a diet component of the offshore killer whale ecotype.

**ACKNOWLEDGMENTS**

I thank the following people without whom this publication could not have been possible: my co-observer Randy Burke of Bluewater Adventures; Chris Tulloch and Neil Shearar of Bluewater Adventures; Lance Barrett-Lennard, Doug Sandilands, and Nadine Pinnell of the Vancouver Aquarium; Lauri Sadorus, Levy Boitor, and Bruce Leaman of the International Pacific Halibut Commission; Graeme Ellis and John Ford of the Pacific Biological Station; Rob Butler of the Canadian Wildlife Service; and Ron Ydenberg of Simon Fraser University.

**LITERATURE CITED**


1 Personal communication from Graeme Ellis, Fisheries and Oceans Canada, Science Branch, Conservation Biology Section, Pacific Biological Station, Nanaimo, BC V9T 6N7, Canada, January 2005.


Received: 17 March 2005
Accepted: 23 May 2005