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BIRTH OF A “RESIDENT” KILLER WHALE OFF VICTORIA, BRITISH COLUMBIA, CANADA

Observations of cetacean births are rare, as are reports of the behavior of the mother and other group members immediately after a birth. Scientists have observed births of at least five species in the wild: the killer whale (*Orcinus orca*), sperm whale (*Physeter macrocephalus*), beluga (*Delphinapterus leucas*), false killer whale (*Pseudorca crassidens*), and gray whale (*Eschrichtius robustus*) (Balcomb 1974, Leatherwood and Beach 1975, Mills and Mills 1979, Jacobsen 1981, Weilgart and Whitehead 1986, Béland *et al.* 1990, Notarbartolo-di-Sciara *et al.* 1997). There have also been a few published accounts of cetacean births in captivity (*e.g.*, Asper *et al.* 1988). This note describes the birth of a wild killer whale in a well-documented “resident” pod and the unusual behavior of the group.

Our observations were made on 11 July 1990 in Juan de Fuca Strait, just south of Victoria, British Columbia (48°22.5'N, 123°22.5'W). The killer whales observed were part of the “resident” group designated as L-pod (Bigg *et al.* 1987). The whales were located at approximately 1600 local time and followed for 2.5 h. Observations were made consecutively from two different vessels, a 7-m Zodiac and a 4.7-m Zodiac, at distances usually ranging from 5 to 30 m. *Ad hoc* behavioral observations were voice-recorded with a micro-cassette recorder.

The group initially contained about 11–13 whales. Seven whales were identified from photographs (over 130 black and white photographs were taken)

by comparing them with a published catalog (Bigg *et al.* 1987, see also Ford *et al.* 1994) and an unpublished catalog maintained at the Center for Whale Research (Friday Harbor, Washington, U.S.A.). Whale gender, age, and maternal relatedness were also determined from these catalogs. Some whales left the group before photographs were taken, but one of these was identified visually. The mother (L55) of the infant was 13 yr old at the time (Bigg *et al.* 1987). The other whales identified were L4 (L55's mother, estimated at 41 yr of age), L61 (a 17-yr-old male and L55's probable brother), L27 (a 25-yr-old female), and L27's three offspring (L62, a 10-yr-old male; L68, a 5-yr-old male, and L80, a young-of-the-year of unknown gender). Based on association patterns, L27 is probably closely related to L4 and her offspring (Bigg *et al.* 1990). All of these whales belong to the L8 subpod (Bigg *et al.* 1987). L38, a 25-yr-old male in the L10 subpod, was identified visually. Prior to this day, L8 and L10 subpods were last seen by researchers on 3 July 1990. L55 was not accompanied by a calf at that time (D. Ellifrit, Center for Whale Research, personal communication).

Upon contact, we noted that both the whales' behavior and direction of travel were unusual for "resident" killer whales in this area. The whales were first seen traveling single file at about 10 kn towards the southeast. After about five minutes of repeated surfacing with no long dives, the whales suddenly turned and retraced their route to where we had first encountered them. Milling ensued for about 2 min in a 20-m² area, with occasional high-speed movements and splashing. Several times over a period of about 30 sec one whale rotated quickly at the surface. About 5 sec after the last rotation, three whales spyhopped with a neonate jointly held on their rostrums. The neonate remained motionless while held about 1 m above the surface for 2–3 sec. The group then swam clockwise in circles about 50 m in diameter. The neonate was resighted about 10 min later, swimming between two adult females, L55 and L27, that were circling with the rest of the group about 1 m apart. We probably did not see the neonate during this 10-min period because it was hidden between the two females. As the circling continued, L38 and the unidentified whales departed to the south. Eight whales remained, including the neonate.

At 1701, the circling stopped temporarily, with the neonate in the middle of the group. Amidst high-speed surfacing, splashing, and tail lobbing, the neonate was lifted partially out of the water several times, by other whales surfacing beneath it. The neonate porpoised away from the group, which quickly followed behind. Twenty seconds later, the neonate was again between the two adult females and the group began milling. At 1710, during renewed high-speed swimming, the neonate was flipped about three quarters of the way out of the water. Milling was then interspersed with quick movements and splashing. At 1711, activity increased, and one whale tail lobbed near to, or on top of, the neonate. At 1712, one whale and the neonate spyhopped simultaneously. The neonate, with its dorsal surface toward the adult's belly, was lifted partially out of the water by the other whale. We noted a porpoise-leap and another spyhop, as the group engaged in particularly vigorous (high-

speed and percussive) swimming. At 1713, the neonate tail lobbed several times in a row, just before another whale surfaced beneath it. They continued swimming in circles, sometimes passing under the boat. At 1717, one or more whales came up under the neonate, causing it to slide off their back(s) as they rose. At 1720, in an abrupt change of activity, the group began to travel south at high speed (about 10 kn) in a straight line, with no long dives. The neonate was occasionally visible during this time, largely obscured between the same two whales (L55 and L27) which were typically less than 2 m apart. Over an hour later, at 1830, the group's behavior had not changed and we discontinued observations approximately 11 km from where the whales were first sighted.

Similar to what happened during the beluga birth reported by Béland *et al.* (1990), we first observed the neonate when it was lifted above the water's surface on the heads of other whales in the group. We presumed, as did Béland *et al.* (1990), that parturition occurred beneath the water. Immediately prior to this we noted that one whale rotated quickly, as was seen by Asper *et al.* (1988) and Jacobsen (1981) immediately prior to killer whale births. To the best of our knowledge this rotating behavior has not been reported in any other context. As with Jacobsen's (1981) report of the birth of a wild killer whale in Johnstone Strait, British Columbia (a "resident" from a different population), the birth occurred amongst a group of animals that displayed considerable percussive activities. On several occasions the neonate was thrown partway into the air and, once, one or more whales in the group tail lobbed on top of, or very close to, the neonate. These actions appeared almost aggressive in nature. Similar to Weilgart and Whitehead's (1986) assessment of comparable behavior during a sperm whale birth, we interpret these types of actions as potentially stressful to the neonate. Swimming repeatedly in a large circle is unusual for "resident" killer whales in this area but, interestingly, this behavior was also reported by Béland *et al.* (1990) following the birth of a beluga, and unusual swimming behavior by a captive killer whale shortly before giving birth has been noted (Asper *et al.* 1988). The sustained high-speed swimming during the latter part of our encounter is noteworthy considering the presence of a neonate only about an hour old. Based on our experience with this population, we conclude that the behavior of this group during the entire encounter was unusual. Similar behaviors may provide cues for future observers for detecting parturition events.

This summer birth is somewhat atypical, in that, while "resident" killer whales give birth year-round, there is a significant fall and winter peak (Olesiuk *et al.* 1990). The event is particularly meaningful because of the long history of research on this population of killer whales. Information is available on the age and maternal relatedness of the identified whales. The infant is the first known calf for the mother who, at 13 yr of age, is younger than the average age at first birth for "resident" killer whales of 15 yr reported by Olesiuk *et al.* (1990). Most of the identified whales were closely related to the mother (not an unusual situation for "resident" killer whales at any time; Bigg *et al.* 1990). Many of these whales were in direct physical contact with the neonate within minutes of birth.

Researchers at the Center for Whale Research have designated the calf L82 and have determined that it is a female (Ford *et al.* 1994). It has been seen regularly in the six years since its birth and, as with all "resident" killer whales in this population, maintains close contact with its mother and other members of its natal group.

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