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OBSERVATIONS OF A SPERM WHALE (*PHYSETER CATODON*) BIRTH

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To our knowledge, no scientist has witnessed the birth of a sperm whale (*Physeter catodon*), though some have been present within a few minutes of a birth (Gambell, 1968; Gambell et al., 1973; Pervushin, 1966). During the World Wildlife Fund Indian Ocean Sperm Whale Project, we observed a sperm whale being born off Trincomalee, Sri Lanka.

At 0805 h (all times local standard time ±3 min) on 21 October 1983, at 9°01.8′N, 81°29.7′E, on board the 10-m sloop, *Tulip*, we began following a group of at least six sperm whales including one calf, which we believed newly-born because of the presence of an umbilical cord (seen from underwater) and a bent-over dorsal fin. Using a directional hydrophone, we tracked the group through the night. At 0848 h on 22 October 1983, at 8°42.8′N, 81°26.5′E, a single adult whale was seen lying stationary 25 m from our research vessel. The nearest other visible whale was 350 m away. During the next 90 min, *Tulip* stayed hove-to or motor-sailed at less than 2 knots, attempting to stay close to the whales but not approaching them directly. The motor remained running, usually in neutral, and a depth sounder (50 kHz at 30 pulses/min) was also on until 1000 h.

0852 h. The nearest whale began making unusual movements, flexing at the middle with both fluke-tips and head visible above water (its body U-shaped), followed by an arched back. The whale repeated the U-shaped, then arched, body contortions once.

0855 h. The whale rolled on its left side, belly towards our boat. A rush of blood and a dark object were then expelled from the genital area at water surface level.

0856 h. (HW climbed to the masthead.) A wrinkled 3–4-m long calf with curled flukes and bent-over dorsal fin was seen at the mother's head. The mother, newborn, and the older calf could be identified by distinctive markings on the dorsal fin (mother) and head (calves). The newborn's dorsal fin was folded to the right, as opposed to the left as was the case with the older calf and the calf observed by Gambell et al. (1973). The newborn swam awkwardly and ineffectually in a bobbing, rocking fashion.

0858 h. More blood was expelled from the mother. (Except where otherwise stated, we could not positively identify the mother from the other adults.)

0900 h. The mother and calf were joined by one adult, which jostled and pushed the calf.

0910 h. (LSW entered the water with mask and snorkel and hung onto a 15-m rope trailing behind *Tulip*. Underwater visibility was ca. 25 m.). The calf was surrounded by four adults who further jostled it. On one occasion, the calf was squeezed between two adults. The adults engaged in much twisting, turning, and sidefluking (one fluke visible above the surface moving sideways), and an open jaw was seen. Dolphins, probably *Tursiops* sp. or *Pseudorca crassidens*, were sighted within 150 m of the whales and the boat.

0915 h. Three adults closely followed the calf, and again the calf was squeezed between two adults. A sidefluke from an adult was seen. Dolphins remained nearby.

0917 h. Four adults were seen with the calf. There was much rolling, turning, sidefluking, and spyhopping (raising the head slowly out of the water) by the adults.

0920 h. The mother and calf were briefly alone and about 25 m from the boat. The nearest visible whale was 200 m away. The calf separated briefly from the mother and swam towards LSW. It was intercepted and nudged gently away by the mother's head when it was ca. 10 m from LSW. The calf's umbilical cord (ca. 0.2 m) was visible underwater, and a white membrane, almost certainly the afterbirth, was observed protruding ca. 0.6 m from the mother's vagina.

0925 h. The calf surfaced with two adults seen several meters beneath it, one upside-down.

0930 h. The mother and calf were alone and about 25 m from the boat. The nearest visible whale was 250 m away. The calf dove under the mother in what could have been an attempt to suckle.

0945 h. The mother and calf remained alone. The calf left the mother and slowly swam directly to within 1 m of the snorkeller, lingered for ca. 15 sec, and then passed, while the mother stayed ca. 20 m behind the two. The water was still rather cloudy, presumably from expelled blood.

0948 h. Two adults appeared beside the calf. The calf again swam to within 2 m of the snorkeller, then to *Tulip*'s keel, and nudged against the area of the hull directly in front of the keel, which contained the depth sounder transducer. The adults remained ca. 20 m away.

0950 h–1005 h. The calf was alone; the mother was not visible at the surface within 500 m. The calf swam slowly, apparently randomly, and once ineffectually attempted to lobtail (thrash the flukes onto the water surface). (0955 h. LSW climbed out of the water, terminating underwater observations.)

1010 h. The calf remained alone, but it swam more steadily in a direction which coincided with the maximum volume of clicks from the group of sperm whales, as determined by the directional hydrophone. *Tulip* remained stationary.

1012 h. The calf swam out of above-water visual range—ca. 400 m. *Tulip* was still stationary.

1015 h. *Tulip* followed other members of the group.

1035 h. The mother and calf were observed together again.

We were able to stay with the group until 1700 h on 25 October, at which time the whales were roughly 290 km SE of the location of the birth. The newborn calf was resighted at least three times during this period, and on two occasions, was seen simultaneously with the small calf of 21 October.

The circumstances surrounding the birth that we observed differed from those described by Gambell (1968), Gambell et al. (1973), and Pervushin (1966) in some respects. In all three cases, the birth apparently took place while the mother was within a large group of sperm whales, and at least one whale was seen hanging vertically (head up) in the water. We observed no whales in this position. The female gave birth in a manner which allowed her calf to remain close to the surface, making it easy for the calf to obtain its first breath. The mother was also alone when she gave birth, but was joined by other adults about 15 min after parturition. In contrast to Gambell et al. (1973), we observed that the adults not only took an active interest in the calf, but vigorously interacted with it. Pervushin (1966) reported that adult sperm whales appeared to help support the calf. However, our observations of the attending adults suggested that their energetic behavior might have been stressful to the calf. Jostling and pushing of the calf by the adults were seen also on 21 October 1983 with the other, older, newborn of the same group.

Unlike Gambell et al. (1973) and Gambell (1968), we saw no sharks at the time of birth, which might account for the differences observed in the number of whales attending the birth. We did, however, as in these cited accounts, see other cetaceans (dolphins) in the area at the time of birth.

There is a similarity between our observations and those of Gambell et al. (1973) with respect to the newborn's "confused" behavior. The calf observed by Gambell et al. (1973) swam erratically and ran into the side of their vessel. In our observations, it seemed possible that the calf was principally confused by pings from the depth sounder, which may have resembled its mother's clicks. The sperm whale click covers a wide frequency range (200 Hz–32 kHz; Backus and Schevill, 1966), and an individual emits about 1 click/s when clicking regularly. Pervushin (1966) reported that the newborn stayed very close to its mother, but we observed the calf approach the snorkeller and sailboat very closely while the mother stayed ca. 20 m behind.

Previous accounts of sperm whale births (Gambell, 1968; Gambell et al., 1973; and Pervushin, 1966) in the southern Indian Ocean, stated that they occurred between February and May. Whereas very young calves have also been seen in these months off Sri Lanka in recent years, the birth described here took place in October. The presence of another newborn within the group, born about 1 day earlier, demonstrates that this was not an unusual occurrence. It further suggests that the females in this group were fertilized very soon after each other.

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