

Short Note

Killer Whale (*Orcinus orca*) Predation on a Gervais' Beaked Whale (*Mesoplodon europaeus*) in the Eastern Atlantic Ocean

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Although killer whales (*Orcinus orca*) have been documented preying on numerous species of marine mammals, there are few records of attacks on beaked whales (Ziphiidae; Jefferson et al., 1991; Gemmell et al., 2015; Wellard et al., 2016). At 0700 h on 7 October 2014, while sailing across the Atlantic Ocean from Cape Verde to Salvador, Brazil, aboard the MS *National Geographic Explorer*, DG sighted a group of seven killer whales approximately 1.5 km off the starboard bow; their position was 08° 16' N, 026° 20' W in water 4,000 to 5,000 m deep, approximately 930 km southwest of Cape Verde Islands. The sea conditions were flat calm (Beaufort 0-1; Figure 1).

The killer whales showed the typical black and white color patterning of this species but with a noticeably faint saddle patch (Figure 1), which seems to be characteristic of tropical populations of killer whales (Baird et al., 2006; Pitman et al., 2007). They had no obvious dorsal cape, and their eye patches were medium-sized and aligned parallel with the body axis (Figure 1). The group was comprised of a single adult male, four adult females/subadult males, and two small calves (presumably two of the unsexed whales were adult females). There were two Wilson's storm-petrels (*Oceanites oceanicus*) fluttering about the group during the entire observation.

For the first 10 min of observation, the killer whales were spread out, coursing back and forth through an area of about 100 × 200 m. During that time, we saw no conspicuous surface behavior (e.g., splashing, lob-tailing, or spy-hopping). At one point, all seven animals dove and remained submerged for 7 to 10 min. The engines were shut down, and the vessel was drifting when the group surfaced ca. 200 m from the bow. All seven killer whales swam in echelon formation toward the vessel and approached within 50 m. After that, they dispersed and began to dive and surface intermittently, but this time closer to the ship. Then, a presumed adult

female surfaced briefly, carrying what appeared to be a cetacean carcass. The carcass sank, and we did not see it again. There was no visible blood, tissue, or oil slick on the surface, although the Wilson's storm-petrels continued pattering at the surface in the near vicinity and appeared to be feeding. At no time during the encounter was there any indication of a struggle at the surface, and the whale was already dead when we first saw it (Figure 2). The entire encounter lasted for approximately 60 min. When we left, the killer whales were still diving, milling, and presumably feeding.

Later, when we reviewed our images, it became clear that the killer whales were feeding on a

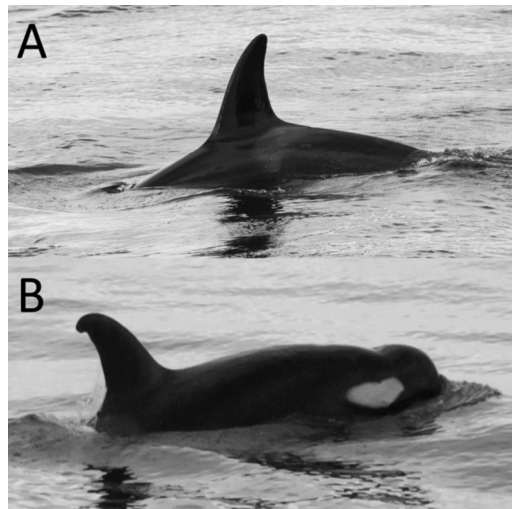


Figure 1. Killer whales from a group that were feeding on a Gervais' beaked whale in the eastern tropical Atlantic, 7 October 2014. (A) an inconspicuous saddle patch just behind and below the dorsal fin; and (B) size, location, and orientation of white eye patch. (Photo by D. Gaultieri)



Figure 2. A presumed adult female killer whale (left) brings a freshly killed, adult male Gervais' beaked whale (right) to the surface. Visible is a dorsal view of the beaked whale's mandible as it projects above the surface. Although much of the flesh has been removed, the diagnostic size and location of the teeth in the lower jaw (arrows) confirms the whale's identification. (Photo by D. Gualtieri)

freshly killed, adult male Gervais' beaked whale (*Mesoplodon europaeus*). Although most of the flesh had been removed from its head (Figure 2), a plan view of the exposed lower jaw clearly showed the diagnostic size, location, and orientation of the erupted teeth of an adult male *M. europaeus*. The teeth were relatively small and located approximately one third of the way back from the tip of the mandible; there was no discernible arch in the lower jaw where the teeth were located (Jefferson et al., 2015).

To our knowledge, this is only the third report of killer whale predation on free-ranging mesoplodonts (Gemmell et al., 2015: one event; Wellard et al., 2016: four separate events) and the first involving a Gervais' beaked whale. There was little evidence at the surface to suggest to the casual observer that a predation event had occurred; this, along with the normal high-seas habitat of beaked whales, probably contributes to the lack of observations of killer whale predation on mesoplodonts.

Acknowledgments

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