

**An unusual encounter with a mixed school of melon-headed whales
(*Peponocephala electra*) and rough-toothed dolphins (*Steno
bredanensis*) at Rota, Northern Mariana Islands**

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Abstract—Little information is available on marine mammals occurring in the Northern Mariana Islands. On 4 July 2004, a group of about 500–700 melon-headed whales (*Peponocephala electra*) was observed and photographed at the surface and extensively underwater for several hours at the island of Rota in the Northern Mariana Islands. An unidentified number of rough-toothed dolphins (*Steno bredanensis*) also were part of this sighting. Bottom depths ranged from about 77 to 1,100 m over the course of the sighting.

There is not much known about the cetacean fauna of the Mariana Islands. Other than a few whale marking cruises by the Japanese (Masaki 1972), there has not been any directed marine mammal research in the islands. What is known of the marine mammals of the area comes mostly from opportunistic records of strandings, and occasional sightings (Donaldson 1983, Eldredge 1991, 2003, Kami & Hosmer 1982, Reeves et al. 1999, Stinson 1994).

Melon-headed whales (*Peponocephala electra*) are found worldwide in tropical, subtropical, and some warm temperate waters, most often in offshore, deep waters (Perryman et al. 1994, Jefferson & Barros 1997). There are only a few known occurrence records for Guam and the Northern Mariana Islands, including a live-stranding on the beach at Inarajan Bay, Guam (Kami & Hosmer 1982,

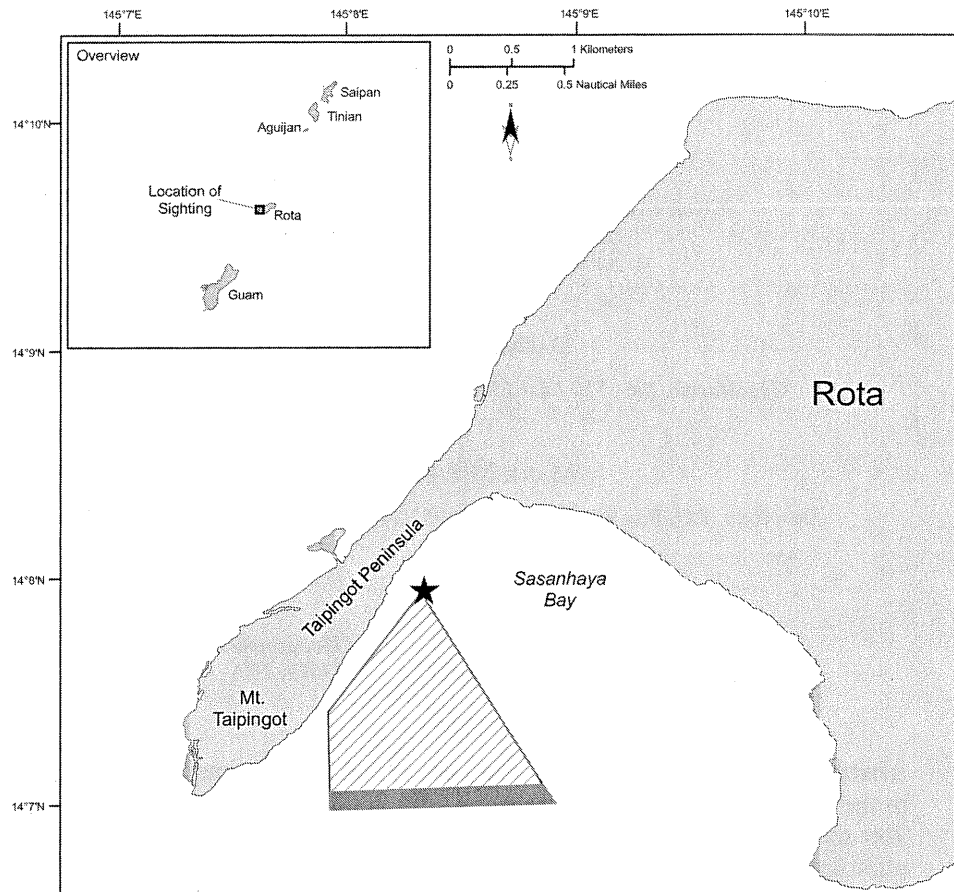


Figure 1. Map of the area where the sighting occurred, off the southwestern coast of Rota. The star indicates the approximate location of the initial sighting. The hatched area indicates the region of observation, and the solid bar indicates the approximate position when the encounter was broken off.

Donaldson 1983) and some unpublished opportunistic sightings at the islands of Rota and Guam (M. Michael, unpubl. observ., B. Odell, Blue Ocean Visions, pers. comm.).

During a dive trip on 4 July 2004, a school of approximately 500–700 melon-headed whales was observed in Sasanhaya Bay, off the Taipingot Peninsula in southwestern Rota (Fig. 1). One of the authors (MM) received a report that a large number of dolphins had been sighted in this area and went to investigate. At 1150, the group was sighted at an approximate position of $14^{\circ}07'57''\text{N}$, $145^{\circ}08'54''\text{E}$, in waters with a bottom depth of about 77 m. Photos were also taken independently by Monty Keel and posted on <http://geo.smugmug.com/gallery/156062>.

Surface observations were made from an 8m dive boat. Seas were very calm, with a Beaufort sea state of 0 and no significant swell, allowing for above-surface

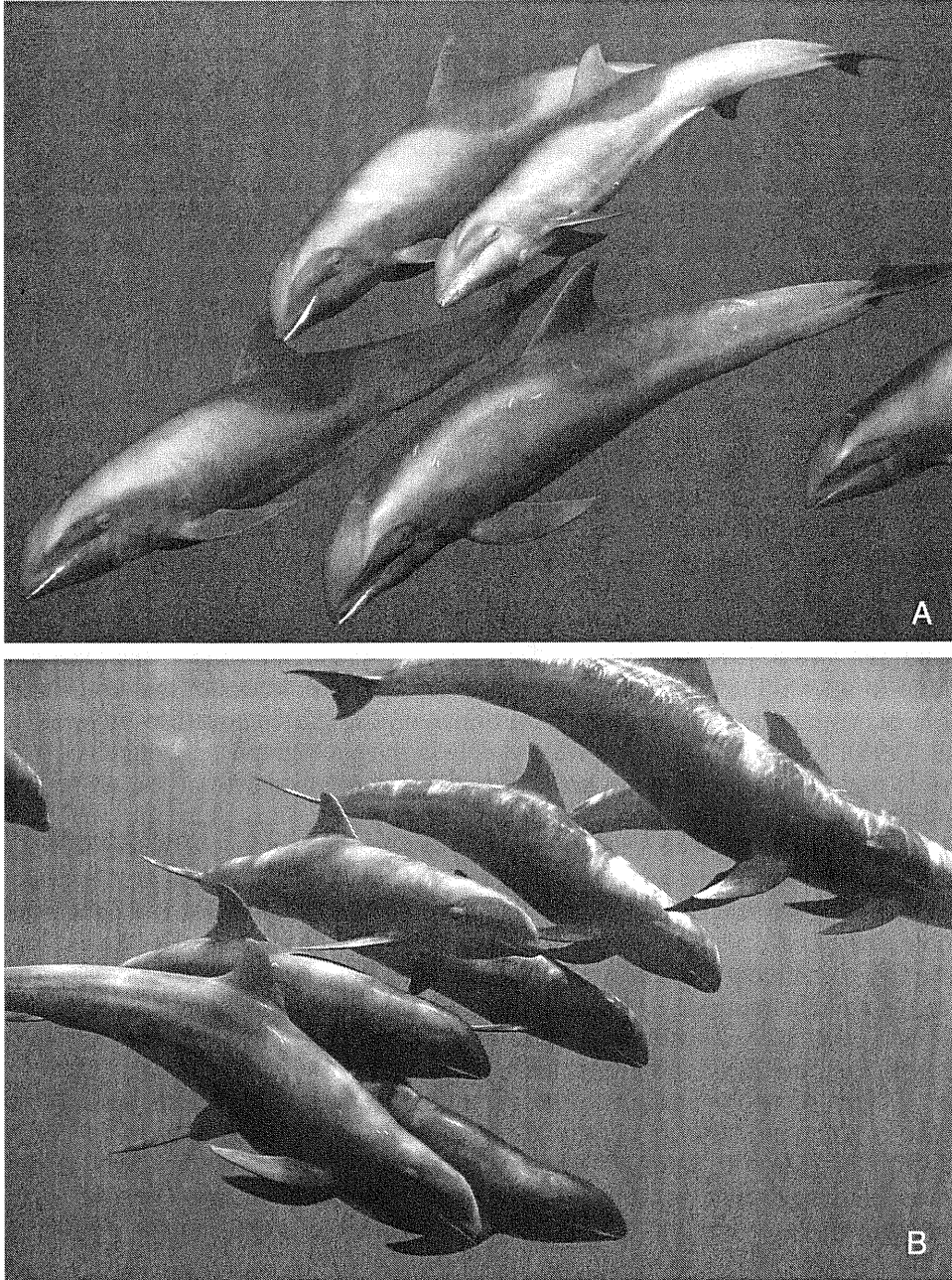


Figure 2. Photos of two subgroups of the school taken underwater. (A) shows three probable adult females or young males, all with white lips. The animal in the upper right is a calf/juvenile, with no white on the lips. (B) shows a group of juveniles, with little white on the lips and very indistinct capes. Photos courtesy of M. Michael.

observations for several kilometers. Subgroups of 3 to 20 individuals were observed, widely scattered as far as the eye could see. Swimmers entered the water to obtain photographs of the animals, diving to depths of approximately 10 m to observe them; visibility was greater than 30m, which facilitated underwater observations. At one point while following the animals, a small number of rough-toothed dolphins (*Steno bredanensis*) were video-taped bowriding on the dive boat. The rough-toothed dolphins were interspersed among the subgroups of melon-headed whales. The association with rough-toothed dolphins has not been previously reported in the Mariana Islands, although these two species have been seen in mixed groups in the Society and Marquesas islands, and the Gulf of Mexico (Gannier 2000, 2002, Gannier & West 2005, Perryman et al. 1994, Jefferson & Barros 1997).

The melon-headed whales appeared to be quite curious about the swimmers, with several subgroups making frequent close approaches to the underwater observers. Behaviors observed across the subgroups included riding the bow wave of the vessel, animals rotating repeatedly on their long axes while bowriding, occasional defecations, and penis extrusions. From the underwater observations, it was possible to discern some of the subtle elements of the color pattern of this species (Fig. 2).

Most of animals that were observed near the vessel appeared to be either adult females or juveniles (Fig. 2). They were mostly rather slender, and there was little to no white on the lips of most individuals. Adult males of this species are robust, with bulbous foreheads and prominent post-anal humps (see Miyazaki et al. 1998). No animals like that were visible in the photographs, although it is possible that such animals were present, but remained distant from the vessel and observers.

The indistinct dorsal cape, which dips low on the side below the dorsal fin in this species, was quite easy to discern on most individuals, although it appeared to be less prominent on the smaller juveniles. The dark face mask, and light blow-hole stripe could also be prominently seen (Fig. 2). The amount of white color on the lips was highly variable among individuals, and generally was less extensive on the smaller animals. When views like this are obtained, it is actually quite easy to distinguish the animals from the similar-appearing pygmy killer whale (*Feresa attenuata*), and less-similar false killer whale (*Pseudorca crassidens*).

Throughout the encounter, the individuals moved to the south, towards the mouth of the bay. The group was left at ca. 1730 at approximately 14°06' 59"N, 145°08'56"E and in waters with a bottom depth of about 1,100 m. The 11,000m-deep Mariana Trench lies to the south and east of the archipelago. The total length of the encounter was ca. 5.5 hrs, and 105 photographs and several minutes of video footage were taken.

This sighting was considered significant for several reasons. First, the paucity of cetacean records in general for the Marianas make this sighting noteworthy, and this appears to be the first record for the rough-toothed dolphin in the Mariana Islands. Second, the clarity of the water and the close proximity of the

encounter facilitated detailed observations of the color pattern of live individuals of several different age classes. Finally, the shallow water that the group was initially sighted in was somewhat unusual. Nearshore sightings of this species are generally from deepwater areas within a few kilometers of the coast, such as off the Society and Marquesas islands of French Polynesia (Gannier 2000, 2002), Lembata Island of the Indonesian archipelago (Rudolph et al. 1997), and in some parts of the Philippines (Leatherwood et al. 1992). We hope that by reporting this observation, we will motivate others to record and report their cetacean observations for this poorly-studied part of the world.

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