

Guguan, Sarigan, Anatahan, Saipan, Rota, and Guam.

Material examined from the Marianas Islands, only, cited here.

Marianas Is.:

Agrigan: In canyon on east side of island, *Fosberg 31630* (US, BISH).

Pagan I.: s. l. *Falanruw 3308* (US); *Hosokawa 7954* (US); outer slopes of volcano, *Falanruw 3297* (US); E of Freshwater Lake, 50 m, *Fosberg 31407* (US); Mt. Pagan, crater floor, *P. H. Moore 373* (US); slopes of Mt. Pagan, *P. H. Moore 362* (US); near Salt Lake, W. side of island, *Fosberg 31344* (US, BISH, K, MO).

Alamagan: S southwest coast, 150 m, *Falanruw 1909* (US).

Sarigan: s. l. *Hosokawa 7881* (US, A); above village, *Evans 2376* (US, BISH, POM, NY, MICH).

Anatahan: West end of north coast, below 75 m, *Falanruw 1687* (US).

Guguan, summit of volcano, 200 m, *Ronck (Falanruw's) 3113* (US).

Saipan: E end Sabanan Laulau, 1 mi. S of As Teo, 200 m, *Fosberg 31310* (US, BISH, POM, MICH, L, K).

Rota: Slopes above As Malote, S side of island, 250 m, *Fosberg 25088* (US, BISH, POM, MICH, TI, NSW, L).

Guam: Manengon savanna, *Falanruw 1374* (GUAM).

Chalandao Mt., 1 km S E of Jumujong Manglo Mt., 320 m, *Fosberg 35370* (US, BISH, POM, MICH).

Mt. Alutom, 900 ft, *Hosaka 3186* (US, BISH, NY).

Umatag, 75 m, *Fosberg 31263* (US, BISH, TI).

Mt. Tenjo, *Stone 5157* (GUAM); *Wagner 3741* (US); *Rodin 520* (US), *521* (US), *749* (US).

N. end of Tumon Bay, 5–100 ft, *G. C. Moore 393* (US).

Top of second hill N of Mt. Tenjo, 800 ft, *Steere 102* (US).

Masso River Valley, *Grether 3437* (US).

s. l. *G.E.S. 122* (US).

Near Agaña, *Safford & Seale 1051* (US).

Mt. Makahna, near Agaña, *Safford* in 1899 (US).

Mt. Santa Rosa, *Moran 4387* (US, UC).

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RECENT BEACHINGS OF WHALES ON GUAM

Although whales are often sighted along the coastal waters of Guam, the beaching of whales on Guam is rather uncommon. Kami and Lujan (1976) reported on the beaching of two specimens of the dwarf sperm whale, *Koiga simus* Owen, which occurred during 1970 and 1974. No further beachings are known to have taken place until 1980 and 1981 when three separate beachings occurred on the shores of Guam. It is the intent of this note to document the beaching of these whales.

Peponcephala electra (Gray)—melon-headed whale, or many-toothed blackfish

On the afternoon of April 6, 1980, Mr. Matthew Duenas of Inarajan found a live whale stranded on the beach at Inarajan Bay (Fig. 1). Mr. Duenas attempted to push the whale into the bay, but it repeatedly stranded itself on the beach. The stranding was reported to the Division of Aquatic and Wildlife Resources the following day. An inspection team comprised of Aquatic and Wildlife personnel and Terry J. Donaldson, student of the University of Guam Marine Laboratory, examined the dead whale that day.

A partial dissection revealed the stomach to be empty, however, digested material was found in the intestinal tract. Parasitic infestation of the musculature was observed. The head of the whale was retained for further study.

The length of this whale, from the tip of the upper jaw to the deepest part of the fluke notch, measured 2.5 m. This whale, which was a male, was initially identified as a melon-headed whale, or many-toothed blackfish, *Peponcephala electra* (Gray) by Terry Donaldson and subsequently confirmed by Dr. James Mead, associate curator of mammals at the National Museum of Natural History. This beaching incident has been recorded in the Scientific Event Alert Network (SEAN) Bulletin (Smithsonian Institution, 1980a).

According to Ridgway (1972), the genus *Peponcephala* was established by Nishiwaki and Norris in 1966 based on the reexamination of specimens of *Lagenorhynchus electra* Gray (1846), and is tentatively assigned to the family Globi-

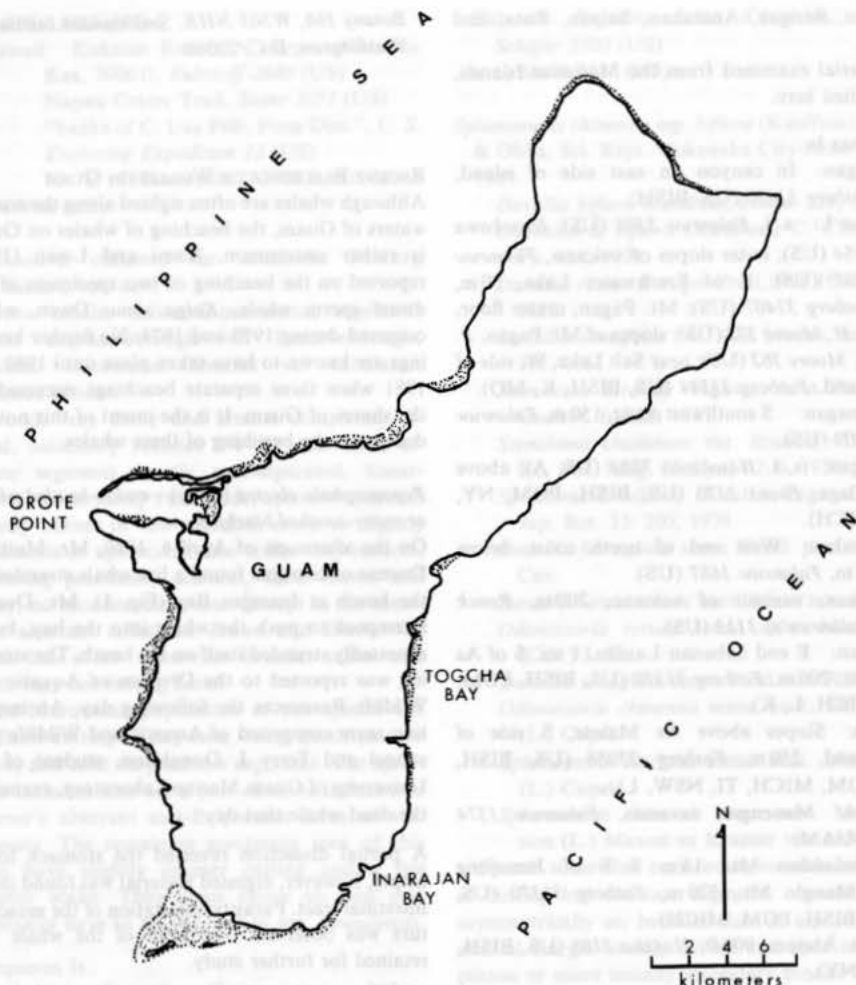


Fig. 1. Locations of whale beachings on Guam, 1980-81.

cephalidae.

The melon-headed or many-toothed blackfish is described as having approximately eighty vertebrae and more than fifteen teeth in each row of the upper jaw as its distinguishing features (Ridgway, 1972). The body is predominantly dark gray, but lightens slightly toward the underside. Its distribution is reported to be the warm regions of the North Pacific and the Atlantic Oceans.

Globicephala macrorhyncha Gray 1846—short-finned pilot whale

On July 6, 1980, three months after the reported beaching of the melon-headed whale, the Division of Aquatic and Wildlife Resources received a report of a beached whale at Togcha Beach.

An inspection team comprised of Division personnel and Terry Donaldson inspected the stranded whale which measured 3.59 m from the tip of the upper jaw to the deepest part of its fluke notch (Smithsonian Institution, 1980b). On July 7, 1980, an account of the whale beaching incident ap-

From the Micronesia In. Agrifuge. Program, Hagoagan.

peared in the local newspaper (Schulz, 1980). According to the news account, a Mr. George Hudson found the live, battered and bloody whale struggling on the shallow reef. After several unsuccessful attempts to help the whale back to the ocean, Hudson shot the whale with his pistol to put it out of its misery. After euthanizing the whale, Hudson and several of his friends tied a rope around it and dragged it to shore, whereupon the whale was butchered for consumption.

The short-finned pilot whale is reported to be distributed in the Pacific and Indian Oceans (Ridgway, 1972) as well as in the Atlantic (Hall and Kelson, 1959). This species is the most frequently sighted whale in Guam waters, although the present account is the first record of its beaching on Guam. Beaching of short-finned pilot whales, especially along the coast of California and Florida, are frequently reported in the SEAN Bulletin. Of particular interest is a report in the SEAN Bulletin (Smithsonian Institution, 1977) of 140 short-finned pilot whales which stranded themselves on Ft. George Island, Florida, on February 7, 1977. According to the report, six of the whales were tagged and returned to the sea; however on the following day, these whales were found stranded in the vicinity of the release site.

Leatherwood et al. (1972) describe *P. macro-rhyncha* as having a thick, bulbous head, all black coloration, long sickle-shaped flippers and a deep tail stock. The adult male may reach about 7 meters, while females are smaller.

Orcinus orca Linnaeus 1758—killer whale

A report of a beached whale at Orote Point was received by the Division of Aquatic and Wildlife Resources on August 1, 1981. A team comprised of Division personnel and Mr. James Micuda, a special agent for National Marine Fisheries Service and the U.S. Fish and Wildlife Service, inspected the whale on August 2, 1981.

From the condition of the whale it was apparent that it was dead and partially decomposed when beached. The body was badly mutilated by sharks. The fluke and the dorsal fin were either eaten by sharks or decomposed and were missing. Despite its condition, distinctive markings were evident to identify it as a killer whale. Unlike other whales,

this species is easily identified by a characteristic white oval spot above and behind the eye. The belly and underjaw are also white. The white on the belly extends dorsally and forms a distinctive patch just past midpoint of the body. The dorsal fin is very pronounced, forming a high triangle.

The length of the whale from the tip of the upper jaw to about the base of the missing fluke measured 5.7 meters. The carcass was left on the rocky beach because of the advanced state of decomposition.

Killer whales are known to be extensive travelers. They migrate from the Pacific Ocean to the Atlantic Ocean and into the Arctic and Antarctic Oceans. The occurrence of killer whales in both oceans led to the belief that there were two species, *O. orca* in the Pacific and *O. rectipinna* in the Atlantic. However, studies have shown no significant differences to substantiate two species (Ridgway, 1972).

REFERENCES CITED

- Hall, R., and K. R. Kelson. 1959. The Mammals of North America. Ronald Press Co., New York. 1083 p.
- Kami, H. T., and R. J. Lujan. 1976. Records of the dwarf sperm whale *Kogia simus* Owen from Guam. *Micronesica* 12(2): 327-332.
- Leatherwood, S., W. E. Evans and D. W. Rice. 1972. The Whales, Dolphins, and Porpoises of the Eastern North Pacific: A Guide to their Identification in the Water. Naval Undersea Research and Development Center, San Diego, CA. 175 p.
- Ridgway, S. H. (ed.) 1972. Mammals of the Sea: Biology and Medicine. Charles C. Thomas, Publisher, Springfield, Ill. 812 p.
- Schulz, J. 1980. Beached whale found in Ipan. *Pacific Daily News*, 7 July: 1.
- Smithsonian Institution. 1977. SEAN Bulletin, Vol. 2, No. 2, February 28, 1977. Washington, D.C.
- Smithsonian Institution. 1980a. SEAN Bulletin, Vol. 5, No. 7, July 31, 1980. Washington, D.C.
- Smithsonian Institution. 1980b. SEAN Bulletin, Vol. 5, No. 4, April 30, 1980. Washington, D.C.
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INSTRUCTIONS FOR CONTRIBUTORS

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