

## MARINE MAMMAL SPECIES CONFIRMED FROM PHILIPPINE WATERS

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**ABSTRACT.** In 1990, the authors began compiling information, (from strandings, interviews, trained observers aboard fishing vessels, unpublished sources, examination of specimens taken in fisheries, and surveys) on marine mammal presence, relative abundance, and involvement in fisheries in Philippine waters. Through September 1992, the Philippine marine mammal fauna had been confirmed to include 17 species. At least those indicated are involved in directed fisheries (+) or are taken incidental to gillnetting or seining operations (\*): Risso's (+\*), bottlenose (+\*), rough-toothed (\*), pantropical spotted (+\*), long-snouted spinner (+\*), and Fraser's (+\*) dolphins, melon-headed (+\*), pygmy-killer, short-finned pilot (+\*), Blainville's beaked (+), sperm (+), pygmy sperm (+), dwarf-sperm, humpback (+), minke and Bryde's (+) whales, and dugongs (+\*). Eight other species for which yet unconfirmed reports exist are: striped, common and Indo-Pacific humpbacked dolphins, and blue, bottlenose, goosebeaked, killer, and false killer whales. There is evidence

that incidental takes in fishing operations have given rise to directed fisheries for small cetaceans as human populations have burgeoned and traditionally harvested marine species have declined.

## INTRODUCTION

There are few published reports on marine mammals occurring in Philippine waters. Townsend (1935) plotted locations of kills of sperm whales between 1821 and 1899; these included records within the current Extended Economic Zone (EEZ) of the Philippines. Herre (1925) reported the stranding of a 33-foot whale near Bacoor, Cavite Province, on 3 January 1925. He identified the specimen as a minke whale; however, his failure to describe diagnostic features for this species and the reported size and coloration of the specimen lend doubts as to the validity of the identification. Slijper *et al.* (1964), who plotted and analyzed distribution of rorquals seen from Dutch ships, showed sightings of humpback whales off southwestern Palawan, in the South China Sea northwest of Luzon, and off Mindanao in the southern Sulu and northwestern Celebes Seas. From the seasonal distribution of records from Indonesia, they concluded that both northern and southern hemisphere humpback whales visited that area and suggested that the Philippines may be a migration corridor for the northern hemisphere animals. Hammond and Leatherwood (1984) reported on observations and collections of cetaceans off southeastern Cebu (the Camotes Sea and Cebu Strait) by representatives of Ocean Park, Hong Kong, April 1974 through July 1975. Collectors observed a sperm whale, Risso's, pantropical spotted, spinner, and Fraser's dolphins, and melon-headed whales, and captured specimens of these last three species. Alcalá (1986) reported on surveys to determine the distribution, movements and status of dugongs and the condition of seagrass beds in the Palawan and the Calamianes areas of the Sulu Sea. Aragones (1990, 1992) reported on the distribution, status, and feeding ecology of dugongs at Calauit Island, Busuanga.

In 1990, the authors began a collaborative research program on marine mammals of the Philippines (Figure 1A). The major goals of the program were (1) to document the distribution and relative abundance of marine mammal species occurring in waters of the Philippine EEZ; (2) to document the nature and extent of fisheries which take marine mammals, either as primary targets or accidentally/incidentally in the course of fishing operations; (3) to study economic, political, and legal aspects of cetacean exploitation and conservation; (4) to initiate studies on the life history and ecology of selected species; and (5) to conduct activities designed to increase awareness in the Philippine general public, academic community, and resource management agencies about marine mammals and their conservation and management. The research program was recently expanded to include placement of observers aboard Philippine purse-seiners fishing in the Sulu and Celebes Seas

(Dolar and Leatherwood, 1992) and intensified collection of data and specimens from fish-landing sites.

Some results of these efforts have already been reported in scientific meetings and published. Dolar (1992) presented information on incidental takes of small cetaceans in fisheries in Palawan, the central Visayas and Northern Mindanao. She confirmed that the six major fisheries in these regions account for deaths of at least Risso's, bottlenose, pantropical spotted, spinner and Fraser's dolphins and suggested that many more species are involved. Dolar *et al.* (1991a, 1991b) confirmed that directed fisheries for cetaceans in these regions also take specimens of the above five species plus melon-headed, short-finned pilot, Blainville's beaked, sperm and Bryde's whales.

This paper presents an annotated checklist of all species of marine mammals confirmed from Philippine waters through September 1992. It expands and updates the brief listing of Aragonés *et al.* (1991) which included results of the various sighting surveys, mostly of the central Visayas, through 1992. Presentation includes scientific names, common and vernacular names, and the author(s) and year of the original description, followed by records of sightings, strandings, directed takes, and incidental/accidental takes in fisheries. Classification above the generic level follows Honacki *et al.* (1982), Barnes *et al.* (1985), Mitchell (1989) and Perrin (1990). Common names follow Leatherwood and Reeves (1983) and Reeves *et al.* (1992).

## MATERIALS AND METHODS

Literature on marine mammals of the Philippines and immediately adjacent areas was reviewed. Files of the Smithsonian Institution, which contain listings of marine mammal holdings of 68 institutions, were queried and appropriate records extracted. Interviews were conducted with scientists who were working or had worked in the Philippines. A series of investigations were also undertaken by the authors, as described below. Locations of some places referred to in the text and areas of coverage are shown in Figures 1A to 1D.

### Vessel Surveys (see Fig. 1B)

Batangas Bay, Verde Island Passage and Sibuyan Sea. From June through September 1988, four surveys a month were conducted from the scheduled ferries (*M/V Puerto Galera III* and *IV*), connecting Batangas City, Luzon, with Puerto Galera, Oriental Mindoro (Figure 1 inset). On 5 May 1992, a single survey was conducted aboard the *M/V Sugbu*, a ferry between Manila Bay and Romblon Islands. Searches were made from a platform on the bridge, at an eye level of about 8m and 15m respectively. Binoculars were used to aid in locating and identifying dolphins.

Almost all species seen approached the vessel, at least occasionally. Thus, identifications were easily confirmed.

Bohol Sea, Cebu Strait and Sulu Sea. Surveys for cetaceans were conducted during the following cruises: 1-2 April 1991 and 3-5 April 1991 aboard the 18m *M/V San Antonio* - Dumaguete to Pamilacan Island to Siquijor to Dumaguete; 8-9 April 1991 aboard the 24 m *R/V Melaena* - Apo Island to Selinog Island to northern Mindanao to Selinog Island to Apo Island to Dumaguete; 1-10 May 1991 aboard the *R/V Melaena* - Dumaguete to Tubbataha Reef and around the islands of Cavili and Cagayancillo to Dumaguete; 13-15 May 1991 aboard the 7m *F/V Regis* and *F/V Christina* - off Brooke's Point, Palawan; 21 May 1991 aboard an unnamed pumpboat - in Ulugan Bay, Masarascas, Palawan; 19 May 1991 aboard an unnamed 8m pumpboat - off Puerto Princessa, Palawan; 13-15 May 1992 aboard the *M/V San Antonio* - Dumaguete to Siquijor to Selinog to Apo to Dumaguete; 11 and 29 June 1992 aboard the 10m *M/V Prima I* and *Prima II*, respectively, the ferrys between Dumaguete and Siquijor; 24-26 May 1992 aboard an unnamed pumpboat - off San Francisco, Negros; 28 May to 1 June 1992 aboard the 21m *M/V Flying Fish II* - Dumaguete to Pamilacan Island to Camiguin to Siquijor to Dumaguete; 12-14 June 1992 aboard the 10m *R/V Oikos III* - Dumaguete to Siquijor to Dumaguete; 16 June 1992 aboard the 50m *M/V Georich*, the ferry between Dumaguete and Dapitan, Mindanao; 2 July 1992 aboard the 125m *M/V Don Virginia*, the ferry between Dumaguete and Naso Point, Panay; 8-9 July 1992 aboard the *F/V Accord* - off Siaton, Negros; 28-29 July 1992 aboard *R/V Melaena* - Mactan Island to Balicasag Island to Dumaguete; 9-10 August 1992 aboard the *R/V Melaena* - Dumaguete to Pamilacan Island to Dumaguete; 5-6 September 1992 aboard the *M/V Flying Fish II* - Dumaguete to Apo Island to Dumaguete.

Except for the surveys conducted from scheduled ferry services, watches for cetaceans were maintained at all times by two or more observers. Whenever possible, the vessel was diverted to approach the animals, and photographs and videos were taken. Groups were followed and observed for 10 minutes to 2 hours, during which time group size, diving times and respirations rates, moving directions and speeds were noted in detail. These information will be reported elsewhere. Sightings also were logged incidentally during various cruises by Aragonés around Palawan, Calauit Island and off Occidental and Oriental Mindoro, 1989-1991.

Tañon Strait, Visayan Sea and Camotes Sea. The following surveys were conducted in these areas: 18 and 23 June 1992 aboard the 12m *M/V ABC*, the ferry between Tampi, Negros, and Bato, Cebu; 20-21 June 1992 aboard the *M/V Flying Fish II* - Dumaguete to Moalboal to Dumaguete; 27-28 June and 29-30 September 1992 aboard the *M/V Oikos* - Dumaguete to Moalboal to Dumaguete; 11-12 July aboard the *M/V San Antonio* - Dumaguete to Basak, northern Negros, to Bantayan Islands to Boao, northern Cebu, to Mactan Island. All cetaceans seen were closely approached

and their positions estimated with compass references to identifiable land masses, photographs and video footage were taken, behavioral characteristics were noted, and group numbers were estimated. Survey height was between 4 and 9m; speed was 7-9 knots.

### Site Visits

Information was also gathered during site visits as follows: to all major fish landing sites between Honda Bay Pier, Tagburos, and Rio Tuba, on the east coast of Palawan, and to Quezon, on the West Coast of Palawan, 28 March - 1 April 1991; to Caletegas, Narra, Brooke's Point, and Puerto Princessa, Palawan, 13-18 May 1991; to Pamilacan Island, April and July 1990, 5 and 6 April 1991, and 20 and 23 May 1991 and 28 May and 9 August 1992; to Selinog Island 14 and 15 February 1991, 8 and 9 April 1991, and 13 and 14 May 1992; and to San Francisco, Negros, 15 June 1991 and 24-26 May 1992; to Brooke's Point 3-7 August 1991; to Lila, Bohol, 29 May and 10 August 1992; to Sagay, Camiguin, 30 May 1992; and to Siaton, Negros, 2-3 April 1991 and 8-9 July 1992. Local contacts in several of these villages/towns were enlisted to collect data on fishing effort and number and species of animals taken. They were given aids to identification, measurement forms, and a camera and print film to photograph animals landed. These photographs were used to verify species identifications (Dolar *et al.*, 1991a, 1991b).

Sightings made during vessel surveys of the Central Visayas through 18 May 1992 are shown in Figure 1C; those made during concentrated surveys of a smaller area of Tañon Strait, Cebu Strait and the Bohol Sea 19 May-30 September 1992 are shown in Figure 1D. Information on marine mammals species confirmed during these vessel surveys and all other activities is summarized below by species.

For all specimens and photographs, species was determined by reference to keys and other identification aids in Leatherwood and Reeves (1983), Leatherwood *et al.* (1988), Baker (1983) and Jefferson *et al.* (1992). To confirm identifications of some difficult specimens, particularly skulls and loose bones and baleen, photographs and measurements were provided to various experts and their opinions solicited. Voucher specimens are deposited in the Silliman University Marine Laboratory (SUML) or Biology Department (SUBD) or the Museum of Natural History at the University of the Philippines at Los Baños (UPLB).

### CHECKLIST

**Order Cetacea** Brisson, 1762 (Whales, dolphins and porpoises)

**Suborder Odontoceti** Flower, 1867

**Superfamily Delphinoidea** (Gray, 1821), Flower, 1864

**Family Delphinidae** Gray, 1821. Dolphins; *lomod* (most of the Visayas) and *lumbalumba* (Tagalog region and some of the Visayas)

**Subfamily Delphininae** (Gray, 1821), Flower, 1867

*Grampus griseus* (G. Cuvier, 1812) - Risso's dolphin; pakatang (Visayas) and *kabang* (= uneven coloration) (Figures 2a, 2b)

Sightings: repeated encounters with a small pod off the northwest tip of Cebu Island, April 1974 - July 1975 (Hammond and Leatherwood, 1984); frequent sightings, usually in the company of Fraser's dolphins, off southeastern Negros, between Dumaguete and Siaton, and off northern and southeastern Siquijor, April 1991 - May 1992 (Dolar et al. 1991a, b; this study); off San Francisco, Ormoc, Leyte, Camiguin, Siquijor, and the tips of southern and northern Cebu, around Sumilon, Pamilacan, Balicasag Islands, between Camiguin and Siquijor, and in Batangas Bay, May - September 1992. Directed takes: by harpoon off Brooke's Point, Palawan, 22 June 1991 (Dolar et al., 1991a, 1991b); Incidental takes: in gillnets throughout the central Visayas (Dolar et al., 1991a, 1991b).

*Tursiops truncatus* (Montagu, 1821) - Bottlenose dolphin; *lomod* (Figure 2c)

Sightings: Occasional, in groups of up to 200, off Coron, Lincapacan, Busuanga, Culion, Calait Islands, El Nido and Taytay, Palawan, San Jose, Occidental Mindoro, - 1989 - 1991; Batangas Bay and Verde Island Passage - 19 June (10 individuals, 5), 29 July (15 individuals), 14 August (20 individuals), 19 August (five individuals), 21 August (11 individuals), 9 September (two individuals), 10 September (25 individuals), 16 September (four individuals), 17 September (eight individuals) and 1 October (three individuals), 1988; Balicasag Island - 5 April 1991 (200 individuals); Ulugan Bay, Mascarascas, Palawan, 21 May 1991; off Brooke's Point, Palawan 18 May 1991; around Pamilacan 28 and 29 May 1992, and Camiguin Islands, 30 May 1992, and repeated encounters between the southern tip of Cebu and Negros, June - September 1992. Directed takes: by harpoon off Brooke's Point, Palawan, 18 May 1991 (173 cm), 15 July 1991 (150 cm), and 27 July (150 cm) 1991 (Dolar et al., 1991a, 1991b); Incidental takes: widely in the Central Visayas (Dolar et al., 1991a, 1991b).

*Stenella attenuata* (Gray, 1846) - Pantropical spotted dolphin; *lomod*, *balakiki* (Figure 2d)

Sightings: approximately six encounters, with 200-800 individuals, off eastern Cebu (Hammond and Leatherwood, 1984); Batangas Bay, Verde Island Passage, 13 August 1988 (four individuals), off Brooke's Point, Palawan, May 1991, and between southeastern Siquijor and Selinog Island, 13 May 1992 (400 plus individuals); off Pescador Island, 11 June 1992 (250 individuals), 25 July 1992 (450 individuals) and 29

September 1992 (200 individuals), Panglao Island, 28 July 1992 (200 individuals), and Daco Island, 20 September 1992 (250 individuals). Directed takes: by harpoon off Brooke's Point, Palawan, 15 May 1991, 173 cm. male, "speckled stage" (Dolar *et al.*, 1991a, 1991b).

*Stenella longirostris* (Gray, 1828) - Long-snouted spinner dolphin; *lomod* (Figure 3a, 3b)

Sightings: August 1974, near Cebu City (Hammond and Leatherwood, 1984); Occasional off Calauit and Lincapacan islands, Puerto Galera, Oriental Mindoro, and San Jose, Occidental Mindoro, 1988-1991; Batangas Bay and Verde Island Passage - 30 July (six individuals), 13 August (12 individuals), 21 August (16 individuals), and 17 September (three individuals), 1988; around Siquijor, Pamilacan, and Selinog islands, off southeastern Negros, and off Brooke's Point; several sightings off Siaton, Dumaguete and San Francisco (Negros), Danao (Cebu), Camiguin and Ormoc (Leyte) and Balicasag, Pamilacan, and Marinduque Islands, and the species seen most frequently in Tañon Strait, 19 May - 30 September 1992. Directed takes: Brooke's Point (13 May 1981), Pamilacan and Selinog (frequent at both) (Dolar *et al.*, 1991a, b); San Francisco, Negros, 24 - 26 May 1992. Incidental Takes: in gillnets, Pamilacan and Selinog islands and Siaton and San Francisco, Negros (frequent) (Dolar *et al.*, 1991a, 1991b).

*Lagenodelphis hosei* Fraser, 1956 - Fraser's dolphin; *mayahon* (= sparrow like, for the short beak) (Figure 3c, 3d)

Sightings: the most conspicuous cetacean seen in the Camotes Sea and Bohol Strait, April 1974 - July 1975 (Hammond and Leatherwood, 1984); frequent observations off southeastern Negros, Dumaguete to Siaton, and around Siquijor, often with Risso's dolphins; possible sightings off Puerto Galera, 1988 - 1991; repeatedly seen in the presence of other cetaceans around Siquijor and Camiguin and in the channels between Siquijor and both Camiguin and Sumilon, 19 May - 30 September 1992. Stranding: 168.4 cm male, Anilao, Batangas, 15 September 1990. Dry mounted specimen and preserved organs at UPLB. Directed takes: 16 specimens captured live (Hammond and Leatherwood, 1984); Incidental takes: in gillnets, Siaton, Negros (Dolar 1992; Dolar *et al.*, 1991a, 1991b).

**Subfamily Globicephalinae** (Gray, 1866), Gill, 1872

*Peponocephala electra* (Gray, 1846) - Melon-headed whale; *pakatang* (Negros Oriental - for resemblance to floating logs) (Figure 4a, 4b)

Sightings: often seen on the periphery of herds of Fraser's dolphins off east central Cebu (Hammond and Leatherwood, 1984); sighting of 400-600 individuals,

with approximately 190 Fraser's dolphins, off Western Siquijor Island, April 1991; off San Francisco, Negros, 24 May 1992, and Camiguin, 31 May 1992, and together with Fraser's dolphins around southern Siquijor, 12 and 13 June 1992. Directed takes: 10 captured live off east Central Cebu, 1974-1975 (Hammond and Leatherwood, 1984); by harpoon at Pamilacan Island, May 1991, skull at SUML (Dolar *et al.* 1991a, 1991b).

*Feresa attenuata* Gray, 1874 - Pygmy killer whale

Sightings: Off eastern Camiguin (100 individuals), 31 May, and southern Siquijor (50 individuals) 12 June and in Tañon Strait (100 individuals) 21 June 1992.

*Globicephala macrorhynchus* Gray, 1846 - Short-finned pilot whale; *ambuhutan* (=spewing out, referring to the blow) in Lila, Bohol; *bugon siso*, at Pamilacan. (Figure 4c)

Sightings: Off southern Negros, May, 1991; 6-8 individuals in Lingayen Gulf; between Selinog Island and northern Mindanao, 16 June 1992 (two individuals), along the southwestern coast of Cebu, 18 June (50 individuals), 21 June (45 individuals) and 28 June (100 individuals) 1992, off Siaton, Negros, 8 July 1992 (15 individuals), off Balicasag Island (75 individuals), 29 July 1992, and off Siquijor (75 individuals) 10 August 1992. Strandings: 6 - 7 animals, about 15 August 1990, 1.5 km. north of Calategas, Narra, Palawan. Two of seven animals buried by locals. Skull with mandibles (No. P002), mandibles (Specimen 003), and miscellaneous vertebrae and ribs (Specimen 004) collected 28 March 1991, and deposited at UPLB. Six individuals at Binmaley, Pangasinan, reported to the authors 24 October 1991. Directed takes: by harpoon at San Francisco, Negros (Dolar *et al.*, 1991a, 1991b). Incidental takes: in gillnets, Siaton, Negros. Other: The American Museum of Natural History, New York, has 2 ribs (AM03578) and lower jaws (AM030576) of pilot whales collected by R. C. Andrews at Port Galera, Mindoro, 27 October 1909.

**Superfamily Ziphiioidea** (Gray, 1865), Fraser and Purves, 1960

**Family Ziphiidae** Gray, 1865 - Beaked whales

*Mesoplodon densirostris* (de Blainville, 1817) - Blainville's beaked whale (Figure 4d-f)

Directed takes: Single individual harpooned by whalers from Pamilacan, 1991. Skull held at Silliman University Marine Laboratory.

Note: There have been 11 sightings of live beaked whales; in at least nine of those instances, the whales were not Blainville's beaked whales, but they could not be identified to species.



**Superfamily Physeteroidea** (Gray, 1821), Gill, 1872

**Family Physeteridae** Gray, 1821

*Physeter catodon* Linnaeus, 1758 - Sperm whale; *balyena* (Figure 5a)

Sightings: Repeated sightings of a single individual during a three-week period, 1974, one mile east of the harbor, Cebu City (Hammond and Leatherwood, 1984); sighting at Tubbataha Reef, Sulu Sea, 17 April 1991; encountered between Bohol and Camiguin, 29 May 1992 (12 individuals) and southwest of Balicasag Island, 10 August 1992. Directed takes: records of takes by yankee whalers, 1821-1899, of over 100 individuals from all months, off western and southwestern Mindanao, four individuals in July off Siquijor Island and three individuals in February east of the Batan Islands (Townsend, 1935); 1973 at Pamilacan Island (partial left lower jaw, 167 cm from condyle to first tooth socket, at SUBD); Brooke's Point, Palawan, 14 May 1988, 30-35 ft. physically mature female (photos, video tape, one maxillary tooth and about four ounces of spermaceti oil at UPLB).

**Family Kogiidae** (Gill, 1871), Miller, 1923

*Kogia breviceps* (Blainville, 1838) - Pygmy sperm whale

Directed take: by harpoon off Pamilacan Island, March 1990. Skull without mandibles collected 6 April 1991, at SUML.

*Kogia simus* (Owen, 1866) - Dwarf sperm whale

Sightings: repeated encounters in southern Tañon Strait, June - September 1992.

**Suborder Mysticeti** Flower, 1864 - Baleen or whalebone whales

**Superfamily Balaenopteroidea** Gray, 1868

**Family Balaenopteridae** Gray, 1866 - Rorquals; *Buncaras*, *balyena*

**Subfamily Megapterinae** Gray, 1866

*Megaptera novaeangliae* (Borowski, 1781) - Humpback whale; *balyena* (Tagalog)

Sightings: southwestern Palawan, northwest of Luzon, and off western Mindanao (Slijper *et al.*, 1964).

**Subfamily Balaenopterinae** (Gray, 1864), Brandt, 1872

**Superfamily Physeteroidea** (Gray, 1821), Gill, 1872

**Family Physeteridae** Gray, 1821

*Physeter catodon* Linnaeus, 1758 - Sperm whale; *balyena* (Figure 5a)

**Sightings:** Repeated sightings of a single individual during a three-week period, 1974, one mile east of the harbor, Cebu City (Hammond and Leatherwood, 1984); sighting at Tubbataha Reef, Sulu Sea, 17 April 1991; encountered between Bohol and Camiguin, 29 May 1992 (12 individuals) and southwest of Balicasag Island, 10 August 1992. **Directed takes:** records of takes by yankee whalers, 1821-1899, of over 100 individuals from all months, off western and southwestern Mindanao, four individuals in July off Siquijor Island and three individuals in February east of the Batan Islands (Townsend, 1935); 1973 at Pamilacan Island (partial left lower jaw, 167 cm from condyle to first tooth socket, at SUBD); Brooke's Point, Palawan, 14 May 1988, 30-35 ft. physically mature female (photos, video tape, one maxillary tooth and about four ounces of spermaceti oil at UPLB).

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**Subfamily Megapterinae** Gray, 1866

*Megaptera novaeangliae* (Borowski, 1781) - Humpback whale; *balyena* (Tagalog)

**Sightings:** southwestern Palawan, northwest of Luzon, and off western Mindanao (Slijper *et al.*, 1964).

**Subfamily Balaenopterinae** (Gray, 1864), Brandt, 1872

*Balaenoptera acutorostrata* (Lacepede, 1804) - Minke whale; *balyena* (Tagalog)

Sighting: tentative identification, off Calauit Island (Aragones, 1989); Stranding: 3 January 1925, Bacoor, Cavite (Herre, 1925).

*Balaenoptera edeni* Anderson, 1878 - Bryde's whale; *balyena* (Tagalog) (Figure 5 b-e)

Sighting: off southeastern Siquijor, 9 June 1992. Directed takes: annually by whalers from Pamilacan Island and Lila, Bohol, identified from baleen and photographs. (Dolar et al., 1991a, 1991b). Specimens at SUML and UPLB).

## Order Sirenia

### Family Dugongidae Lacepede, 1799

*Dugong dugon* (Muller, 1799) - Dugong; *baboy dagat* (= sea pig) (Tagalog region) and *Duyong* or *dugong* (Tagalog, Visayan and Mindanao regions)

Sightings: Formerly widely distributed in the Philippines, but now believed to be restricted to Palawan, eastern Luzon (Virac, Catanduanes), and Mindanao (Alcala, 1986), and in immediate danger of extinction; Recent sightings in Quezon Bay, western Palawan, 30 March 1991, El Nido Palawan, 1988 - 1992, Taytay Palawan, October 1988, Coron, Busuanga, and Cuilon (one to four individuals per sighting), 1989 - 1991; off Polilio island, Quezon, Palawan, (29 March 1991 and 20 May 1992), Brooke's Point, Palawan, (15 May 1992) and St. Paul Subterranean Park, Palawan (20 May 1992); Directed takes: by harpoon and dynamite in Coron and most of Palawan; Accidental takes: in nets in Coron and most of Palawan (Aragones, 1990).

In addition to confirming the above species for the island group, information was obtained strongly suggesting sightings and/or takes of the following other species: common dolphins, *Delphinus delphis*; goosebeaked whale, *Ziphius cavirostris*; Indo-Pacific humpbacked dolphins, *Sousa chinensis*; rough-toothed dolphins, *Steno bredanensis*; killer whales, *Orcinus orca*; and false killer whales, *Pseudorca crassidens*. Furthermore, from their distribution in other tropical areas, including waters of Indonesia, the Indian Ocean and the Western Pacific (Hembree, 1980; Leatherwood and Reeves, 1983, 1989; Jefferson et al., 1992), it is reasonable to predict the occurrence in Philippine waters of at least the following species (see Heaney, 1989): Ginkgo-toothed beaked whales, *Mesoplodon ginkgodens*; striped dolphins, *Stenella coeruleoalba*; finless porpoises, *Neophocaena phocaenoides*; and blue whales, *Balaenoptera musculus*. However, these species cannot be added to the list of Philippine marine mammal fauna until confirmed by a specimen or photograph. Finally, there were intriguing reports from fishermen suggesting that bottlenose whales, *Hyperoodon* sp. occasionally wander into waters of the central Visayas.

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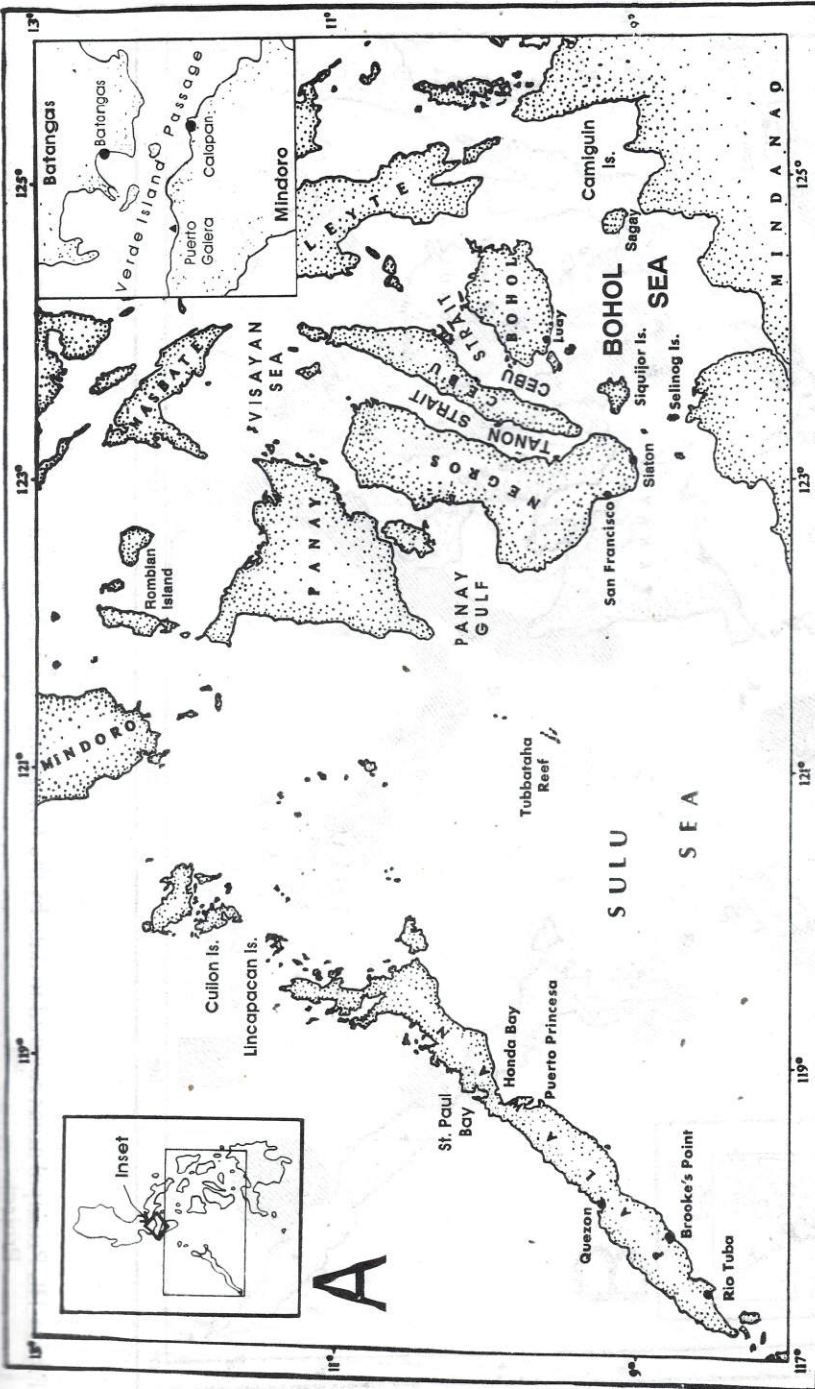


Figure 1A. The Philippines, showing some place names referred to in the text.

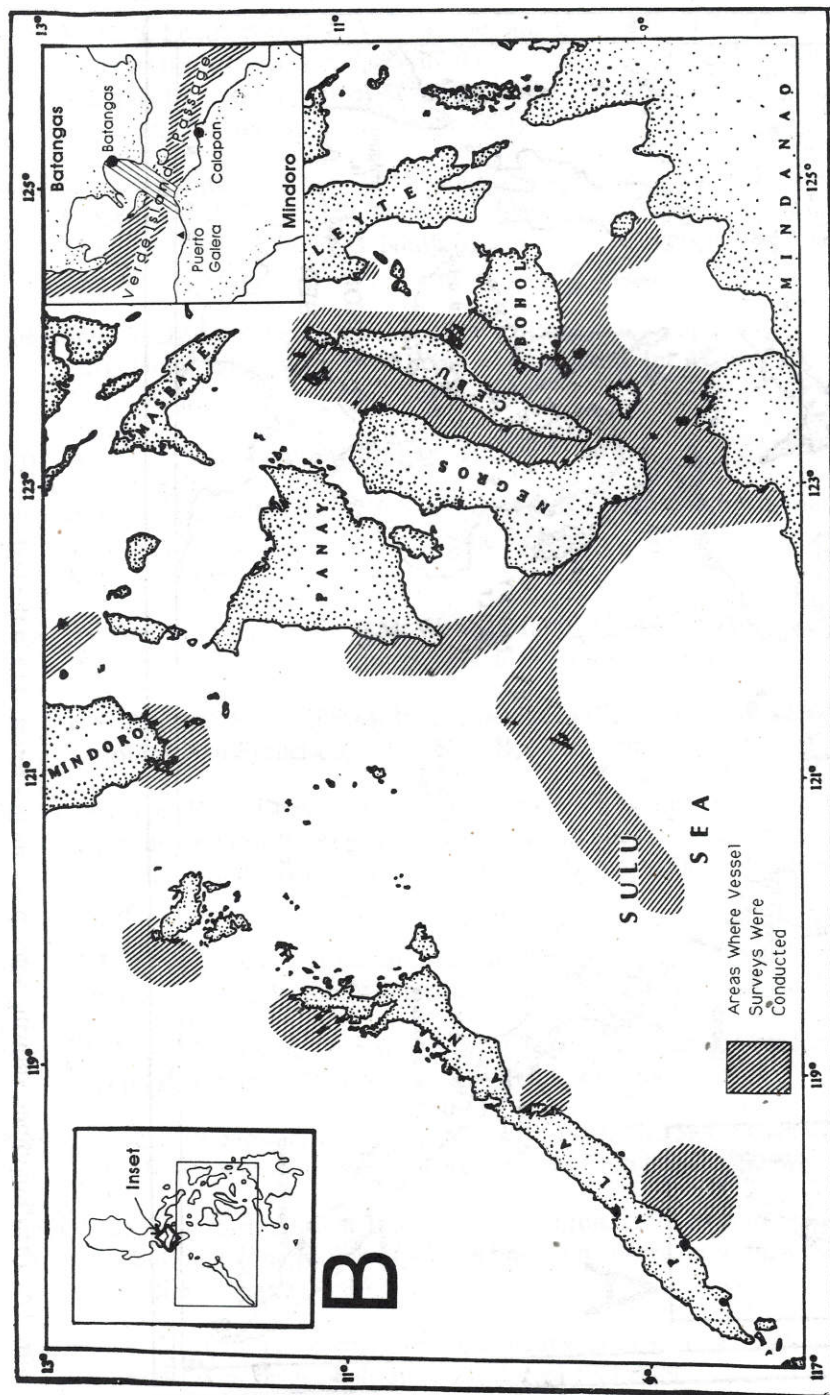


Figure 1B. Principal areas covered to date by the Philippine Marine Mammal Project.

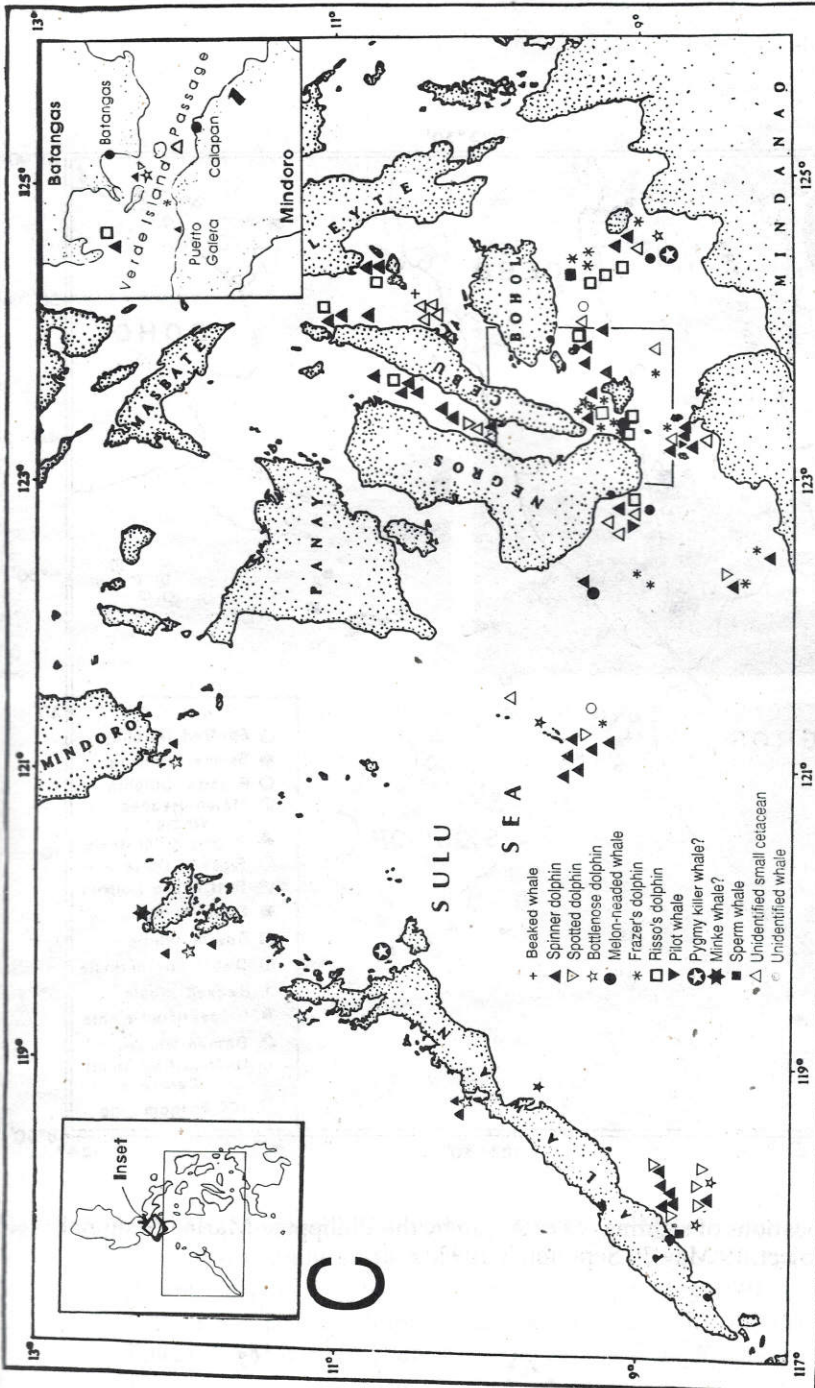


Figure 1C. Locations of sightings of cetacean by the Philippine Marine Mammal Project, 18 May 1992.



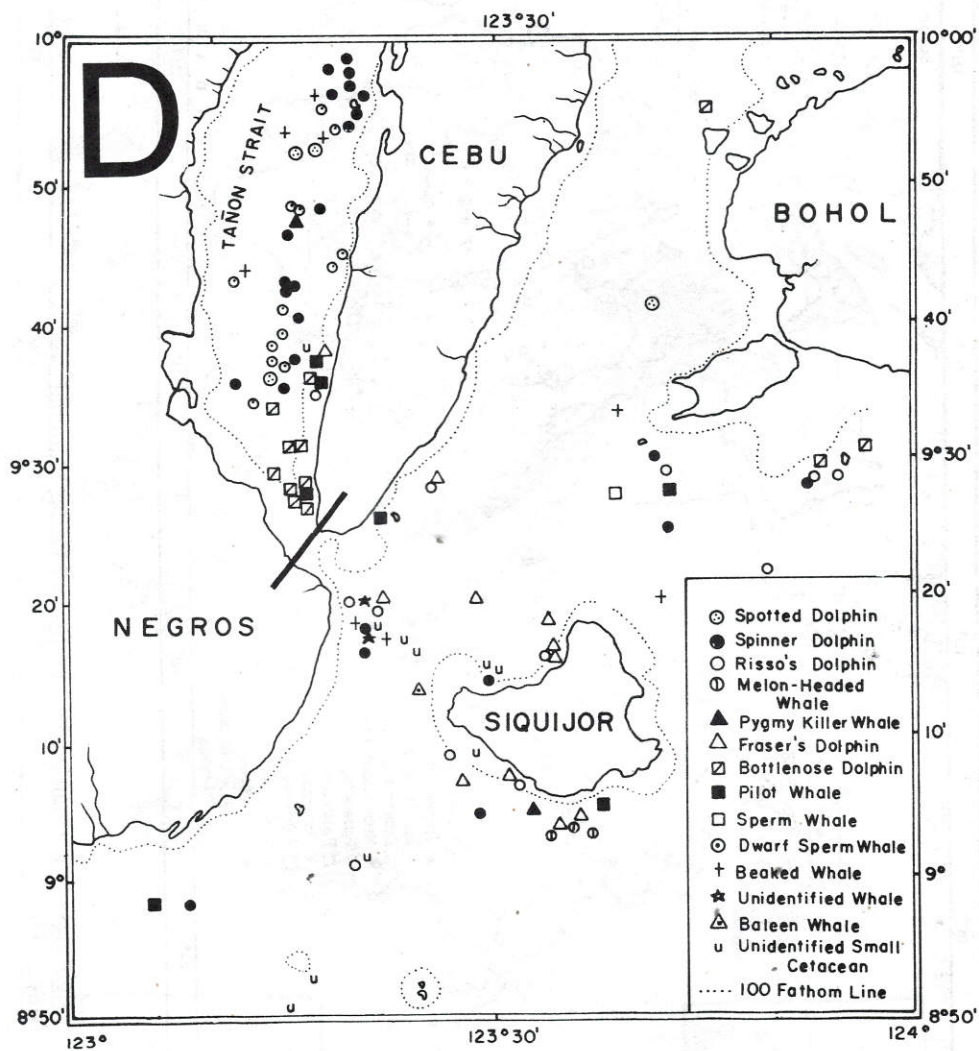


Figure 1D. Locations of sightings of cetacean by the Philippine Marine Mammal Project, 19 May-30 September 1992.

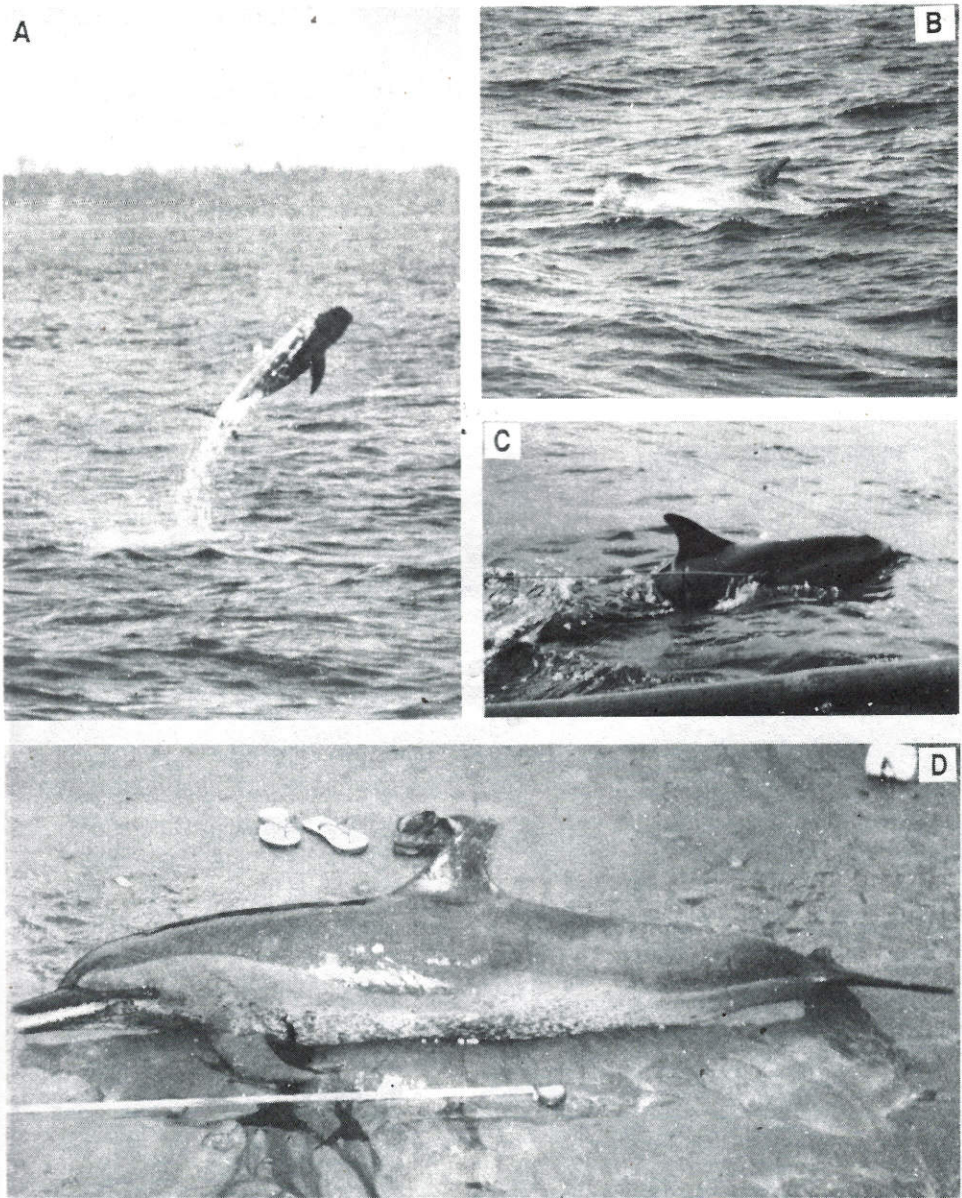


Figure 2. A. Risso's dolphins off Santa Monica, Negros, 9 April 1991. B. Off southeastern Siquijor, 14 May 1992. C. A bottlenose dolphin harpooned but later lost off Brooke's, Point Palawan, 15 May 1991. D. A "mottled" pantropical spotted dolphin harpooned for bait off Brooke's Point, Palawan, 15 May 1992. (Leatherwood, A and B; L. Aragonés, C and D).

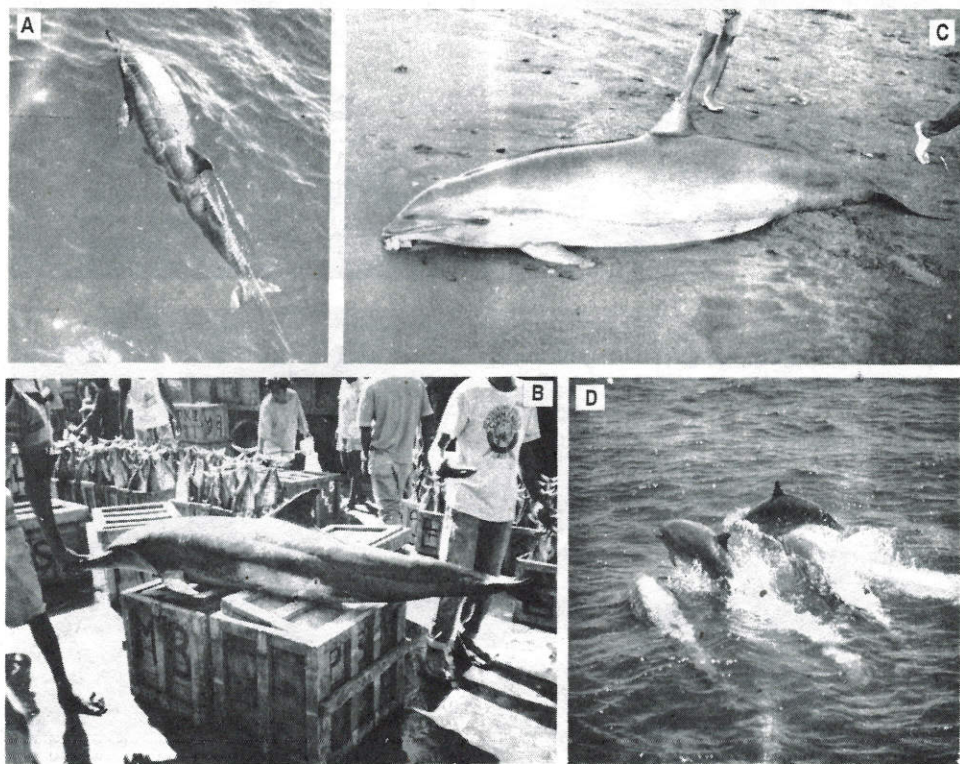


Figure 3. A. Spinner dolphin west of Larena, Siquijor, May 1991. B. In the market. C. This latter specimen was killed in a driftnet in the Sulu Sea; Fraser's dolphins - an 88 inch female taken in a driftnet off Siaton, 3 April 1991. D. Part of a herd off southeastern Siquijor, 13 May 1992. (M. L. Dolar, A and B; S. Leatherwood, C and D).

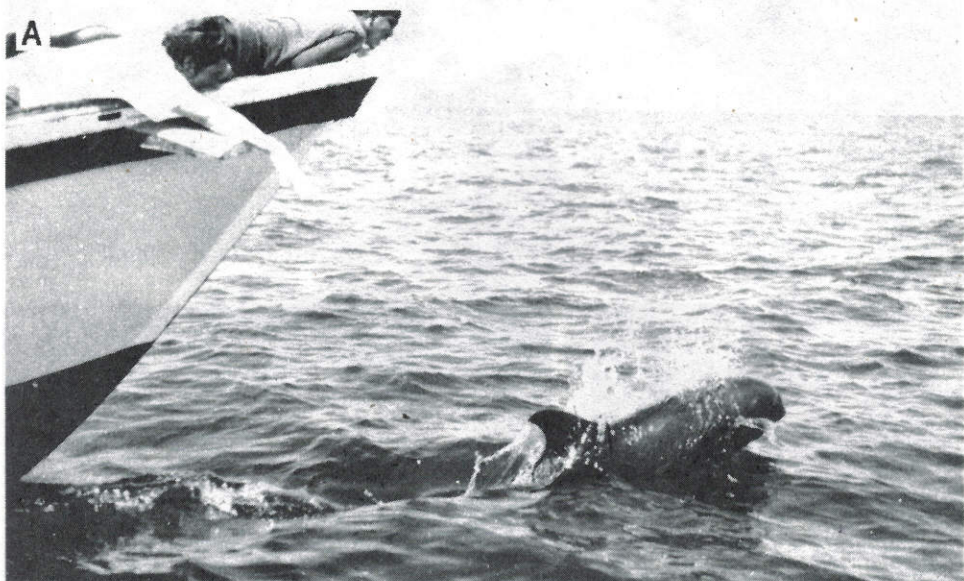


Figure 4A-B. Melon-headed whales north of Apo Island, 9 April 1991.  
(S. Leatherwood).

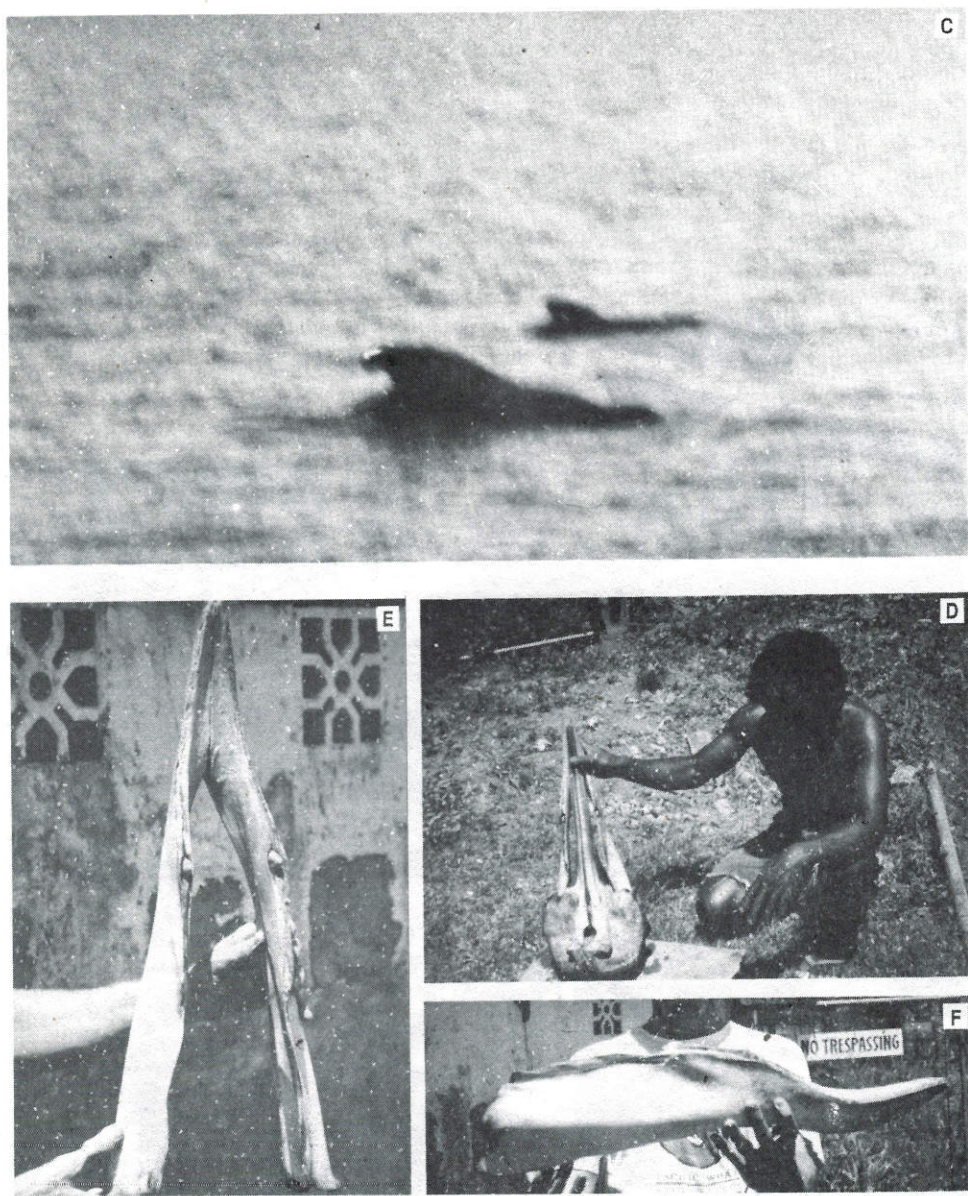


Figure 4. C. Short-finned pilot whales off San Francisco, Negros, May 1991. D-F. Blainville's beaked whale harpooned off Pamilacan Island. (S. Leatherwood, D-F; M. L. Dolar, C.).

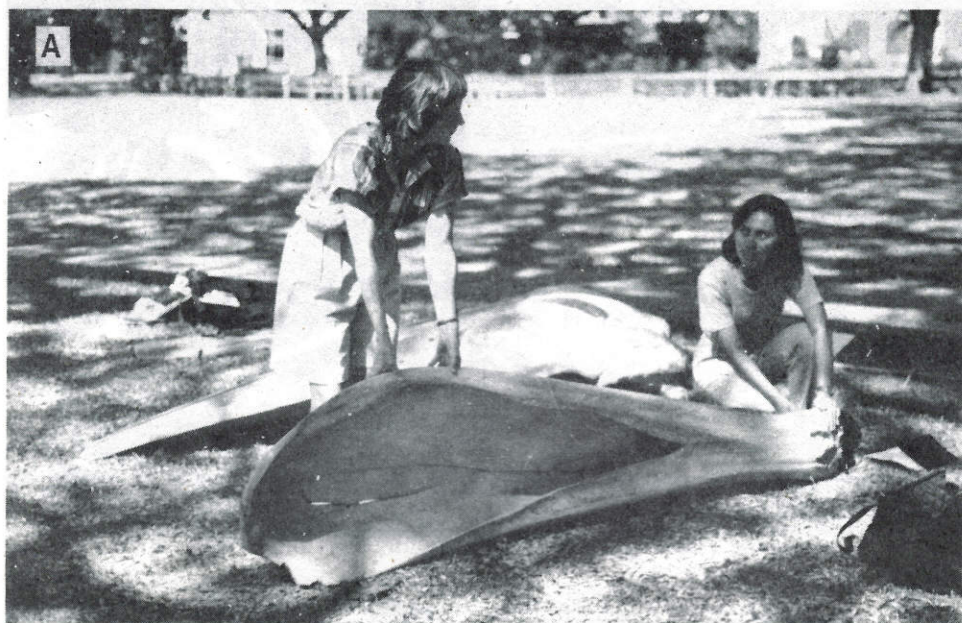


Figure 5. Whales taken by whalers at Pamilacan Island. A. mandible of a sperm whale killed in 1973, now at the SUBD (The Bryde's whale skull in the background also was removed from Pamilacan). B. Baleen of Bryde's whale killed May 1991 off Pamilacan Island and towed to Lila, Bohol, for butchering. [S. Leatherwood (A) and Maria Louella Dolar (B)].

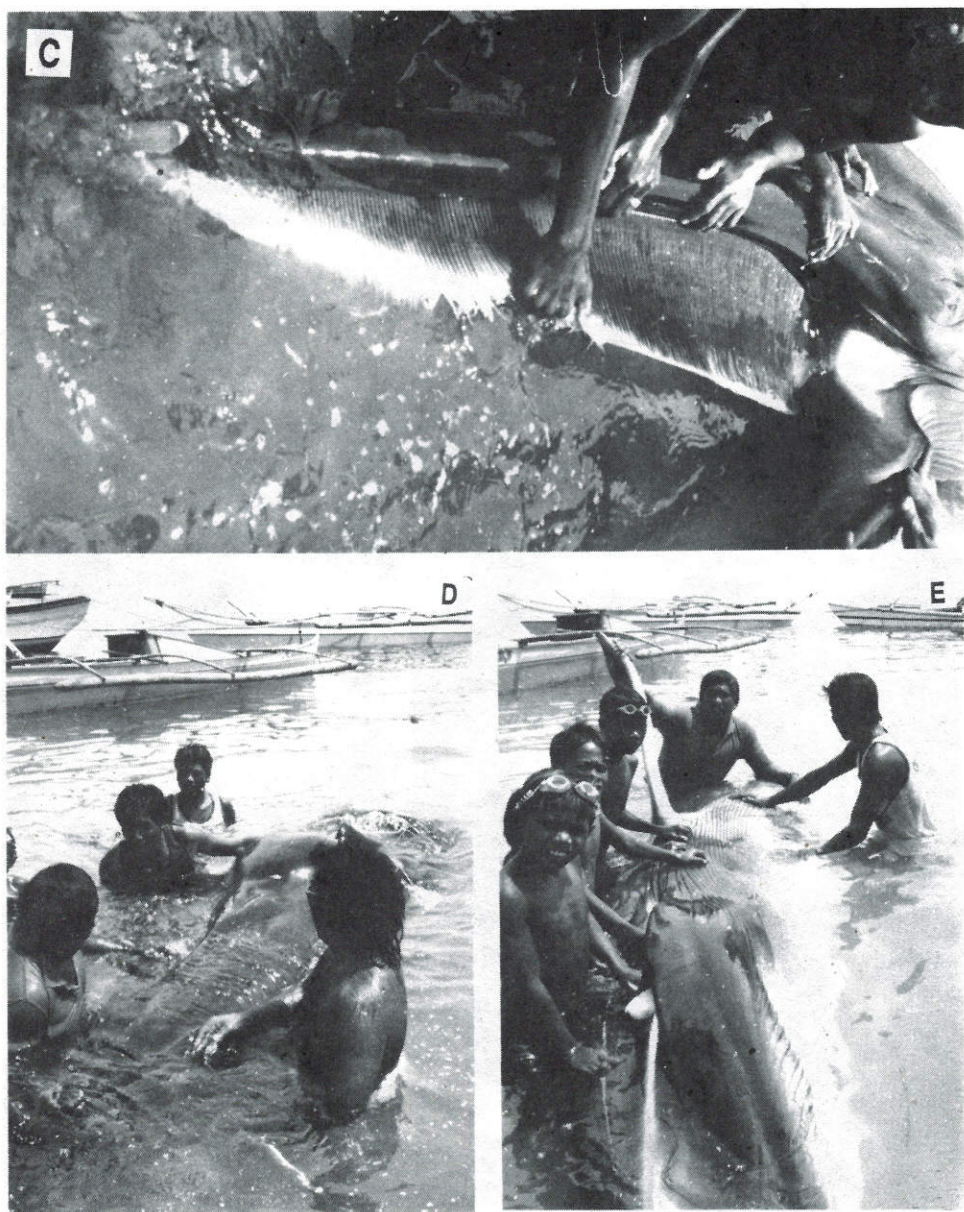


Figure 5C-E. A male Bryde's whale killed 12 May 1992. (Houck S. Reed).