CHAPTER XIX
MAMMALS OF THE GULF OF MEXICO

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MAMMALS OF THE GULF OF MEXICO

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The mammalian fauna of the Gulf of Mexico consists of the manatee, the West Indian seal, and various cetaceans. In this account repetitions of keys and anatomical descriptions are omitted. An attempt has been made to include only information relating particularly to the Gulf.

Order PINNIPEDIA

Family PHOCIDAE. Hair Seals

Monachus tropicalis (Gray). West Indian Seal

The monk seals are restricted to warm waters of the Northern Hemisphere, and there are only three species. These are *Monachus monachus* (Hermann), of the Mediterranean and Black Seas, *M. schauinslandi* Matschie, of the Hawaiian Islands, and *M. tropicalis*, of the Gulf and West Indian region.

So far as scanty historical information goes the former range of the West Indian seal was from the Bahamas and southern Florida through the West Indies to Honduras and Yucatán. Gunter (1947) has given information indicating that single individuals and small herds occasionally visited the western Gulf as far north as Galveston, Texas, as late as 1932.

Large adults measure up to 7.5 feet in length. The color is "brown, tinged with gray, caused by the hairs being light at the extreme tip. The color becomes lighter on the sides, and gradually passes into pale yellow or yellowish-white on the ventral surface of the body." (J. A. Allen, 1887.)

Little is known of the natural history of the West Indian seal. J. A. Allen (op. cit.) and True and Lucas (1884) summarized practically all of the information. Several females with fetuses nearing full term were killed in December 1886 on the Triangle Keys off Yucatán. Food habits are unknown. Monod (1923) observed *M. monachus*, the Mediterranean species, chasing fish.

This animal was also called "sea-wolf" for no good reason, for it is mild and unsuspicious when on the beach. Glover Allen (1942) pointed out that the many Seal and Lobos Keys are reminiscent of its former presence. This unfortunate species was easily procurable and was the best source of oil in the southern islands during colonial times. This led to its early and rapid decimation. The famous English geographer and freebooter, Sir William Dampier, noted the fact in 1675. He found the seals in abundance in the Alacranes Islands and said, "the Spaniards do often come hither to make Oyl of their Fat." They were already becoming scarce when P. H. Gosse wrote about them in Jamaica in 1846. The story of their decline to near extinction is succinctly recorded by Glover Allen (op. cit.). The last specimen taken was killed at Key West, Florida, in 1922 (Townsend 1923). The last sight record was on the Texas coast in 1932 (Gunter, op. cit.).

However, it seems probable that a few still survive on the Triangle Keys and the Alacran Islands off the coast of Yucatán. Dr. Raymond M. Gilmore told the writer that residents of Carmen, Yucatán, reported seeing seals in the Alacrans as late as 1948. They were reported to come ashore in greatest numbers in April. Others may exist (Moore 1953). They should be rigidly protected.

Order SIRENIA. Sea Cows

Family TRICHECHIDAE. Manatees

Trichecus manatus Linnaeus. West Indian Manatee

Harlan (1824) described the Florida manatee as different from the West Indian or South American manatee and gave it the species name *latirostris*. True (1884) agreed that there were two species, but neither of these workers showed where the difference lies. True considered that the so-called Florida manatee also lived in the West Indies, while the South American manatee lived from along the mainland to far up into Mexico. This opinion also implies that the habitats are different

and that the two groups do not mingle. In view of the well-known wandering habits of manatees, especially in summer, this assumption seems quite improbable. Allen (1942) reviewed the case and said Hatt (1934) considered the two as racially distinct. Moore (1951) has shown that certain skull characters (indices of the foramen magnum) of a small series of specimens from Texas, Louisiana, and Florida did not show differences. The Texas specimens would presumably belong to the West Indian race, according to the summary of distribution given by Allen (op. cit.). Whether or not the small anatomical differences would stand up if a larger series were studied remains to be seen. In the meantime, it seems preferable to refer to the Floridian, West Indian, and northern South American manatees as one group.

The present and recent past distribution of *T. manatus* is from south central and southern Florida, through the West Indies and Antilles to Mexico, and southward throughout Middle America to British Guiana. There they seem to stop and do not overlap the range of *T. inunguis*, an inland species of the Amazon and adjacent regions. Northward, manatees extend up the coast of Mexico to Veracruz. This may be said to be the winter range for some manatees are wanderers in summer. They have been reported in the literature from the Carolinas and Virginia. Popular writings on natural history and newspaper accounts indicate, without much doubt, that they occasionally reach the coast of New Jersey. True (1884) mentioned the probable case of a manatee which was washed ashore dead on the Shetland Islands in 1785 and said it must have "set sail" from the Florida coast.

True quotes Silas Stearns on reports that manatees were formerly occasionally seen on the northern Gulf coast from Pensacola to New Orleans, and that their bones were formerly common. Gunter (1941) reported a skull from Louisiana and several specimens from Texas. True (op. cit.) said a South American manatee was taken in Texas in 1855. Formerly manatees visited the mouth of the Rio Grande every summer, coming from farther south in Mexico. At least three were captured alive there in 1911 and 1912 and were later exhibited over the country. They have been unreported for the past 10 years, probably because of population decline. In former times it is probable that manatees visited all coasts of the Gulf of Mexico in summer, although less abundantly to the north.

Manatees are extremely sensitive to cold, as has been reported many times, and are sometimes killed by cool weather as far south as the Florida Keys. It is most improbable that they lived the year-round on the northern Gulf coast, and they are continuous residents in the United States only in Florida. In the days when manatee populations were much more extensive, possibly they did leave bones in numbers along the northern Gulf coast, as stated by Stearns, and these may have been the result of early cold waves or winter kills. Moore (1953) has shown that manatees live quite far inland along some of the rivers of northern Florida and do not go south during the winter. Instead they move to the vicinity of large springs during cold spells where the water temperature never falls below 70° F.

Manatees, along with other sirenians, have the heaviest bone structure known, and the long bones are like ivory. They have paddle-like forelimbs and no hind limbs. They are pure vegetarians and inhabit coastal waters where their food grows. They are found occasionally in the open sea, near the shore. The upper lip is more or less cleft and the two halves can be manipulated independently. The Sirenia have no close relatives but seem to have distant affinity with the elephants. There are similarities of the skull, and these two groups alone among mammals have teeth which grow forward along the jaw to replace those which are worn away. Manatees are lethargic animals and can remain under water 12 minutes. Little is known about them and they should be carefully studied in their native haunts. According to Moore (1953) young Florida manatees have been reported for every month except December.

The late Capt. C. M. Scammon was noted as a chronicler of marine mammals wherever he went. In describing the general habits and appearance of manatees we can do no better than to quote his words (in part) from an unpublished manuscript: [1]

> The Sea-Cows may be regarded as among the most interesting creatures in their habits and disposition of all the marine mammals. Yet in respect to their form and general appearance, they seem like animals of a low order.

[1] Unpublished manuscript loaned by Joel W. Hedgpeth.

The general proportions of the Sea-Cow are like those of the Sea-Elephant and Seal. Its anterior limbs, or swimming paws, are short, thick, and rounded at their extremities. Its posterior limb, or tail—forms a thick oval lobe, slightly notched in the center of its termination.

Its head is tapering with a small rounded muzzle. Its comparatively small mouth is almost hidden from view, when the creature lies in a state of quietude.

Its very small dark eyes are devoid of expression. The general color of the Sea Cow is a dull black, but frequently white or clay colored patches or spots occur about the throat, neck and caudal extremities.

The approximate proportions of the animal is about 7 feet in length, and 6 feet in its greatest girth of body.

Our only opportunity for observing upon the habits of the Sea Cow was at Key West, Florida—1880—when two captured animals were enclosed in a broad shallow tank which, however, afforded the animals room to move about and around each other.

The actions of the strange creatures—as they appeared to us—were extremely interesting. Both of them seemed inclined to remain in a state of quietude, for whenever an attempt was made to move them about or roll them over, they would raise a plaintive cry, the sound of which, in its half nasal strain, was much like that of an infant. But the moment they were left undisturbed, they would lay quite motionless. Or if a movement was made, it was in a sluggish manner.

The geographical distribution of the Atlantic Sea-Cow is, or has been, about bays and large rivers and lagoons, which are near, or within the tropical limits of North and South America, and which are closely connected with ocean waters. Or from the northern coast of Florida to, and including the shores and savanas of the Amazon River. The last mentioned affording these herbivorous marine animals a vast and luxuriant feeding ground, where they roamed at will, and basked on shore, under a tropical sun, when not molested by their human pursuers. About the West India Islands, Sea Cows were in former years found in large numbers.

According to the accounts of old voyages, this marine vegetable eater abounded on the coast of Africa, in the same zone as those found upon the American coasts.

Although the natural food of the sea cow is the spontaneous herbage bordering low shores, or spreading over marshy regions, its fondness for more luscious subsistence is of peculiar interest.

The fact was verified by the two individuals brought to Key West. For when they were in a hungry state, the tender leaves of beets, as well as those of cabbage, would be eagerly devoured. Yet, when not craving food, they manifested much enjoyment in eating bananas, if peeled for them—and at such times, they would utter a sort of nasal or guttural strain of satisfaction, quite amusing. But the moment common grass, or the tops of turnips, were offered to them, they would utter their whining petulant cry of dissatisfaction as if they were weanlings.

Many writers testify to the Sea Cows' strong affection for their young offspring. And when attacked, the mother will sacrifice her own life, in her efforts to protect her charge. And during the time of a murderous onslaught, the lamentations of the parent animal are mentioned as deeply affecting to witness. Hence the name frequently mentioned by both sailors and hunters, *Lamentin.* Yet like their congeners, the Seal, Sea Otters, and Sea Elephants, the sea cows are rapidly approaching extinction and at the present time are only found in remote retreats.

Order CETACEA

Whales, Porpoises, and Dolphins

GENERAL INFORMATION

The adaptations superimposed upon the basic mammalian physiology of cetaceans to fit them for life in the sea has caused certain changes in respiration and circulation. Some of the larger whales sound to great depths and can stay submerged for more than an hour. They must withstand great pressures, rapid pressure changes, and long cessation of breathing. It seems clear that modifications of the pattern of mammalian physiology of breathing have taken place without development of new or greatly different processes. A concise review of certain facts of cetacean physiology has been given by Jeffrey (1951).

The Cetacea have no external hind limbs. The forelimbs are more or less flipper-like and serve as pectoral fins. Some whales have a dorsal fin, and some do not. Propulsion is by a tail which is stroked up and down. The lobes or flukes are horizontal.

Breathing is done through openings in the top of the head. In the toothed whales there is a single opening; the baleen whales have two openings. The lungs are exceptionally capacious.

Some adult whales possess a few scattered hairs over the head and lips, but many do not. As far as is known, however, they all have hair at some fetal stage. Teeth are more or less uniformly pegshaped. They may be present in both jaws or only in the lower jaw in the toothed whales. In the baleen whales teeth are present only in the unborn. Baleen is a series of horny plates with frayed edges which grows down from the roof of the mouth. It is manipulated in conjunction with the huge tongue of these whales in straining out the food.

The external opening of the ear is minute, and the canal is strongly occluded with wax. Nevertheless, a mounting body of recent evidence shows that cetaceans have a finely developed auditory sense and communicate by a series of whistles, grunts, and underwater bellowings. Over the

hydraphone a school of traveling porpoises sounds something like a pack of hounds yelping with their mouths closed. The bottle-nose dolphin whistles under water with simultaneous release of air. The noise-making of cetaceans is peculiar in that they have no larynx or voice box, and the sounds emanate from controlled movements of gas within the various air passages. Sinclair (1950) has recently shown that the auditory area of the brain of the bottlenose dolphin is exceptionally well-developed and that the olfactory nerve is minute. Toothed whales probably cannot smell. In contrast, the olfactory lobe of baleen whales is rather well-developed. The eyes are relatively small, and power of vision is weak in most species.

All cetaceans are covered with a layer of fatty areolar tissue, known as blubber, which lies just under the skin. Whale oil cooked out from this material was the primary objective of the whaler. In addition to being a great store of energy and an insulation wall, the blubber possibly serves as a reservoir for storage of oxygen during deep dives. This layer varies in thickness from an inch in smaller porpoises to 18 inches in large whales.

Young cetaceans are almost half the length of the mother when born although only one-tenth or less of her weight. They grow rapidly and are nursed for more than a year. The writer once measured a female bottlenose dolphin 8 feet 4 inches long, and her nursing calf 5 feet 7 inches long. Breasts are present on each side of the vaginal openings, extending forward, and can be seen as swellings of the abdominal outline. The nipples are retracted in two slits. The milk collects in large sinuses and is actively expelled at the time of nursing which takes only a few seconds. Whales mature at the age of 3 to 4 years. The age attained is unknown.

The toothed whales pursue individual prey and are known to live largely on fishes, squid, and cuttlefish. Some dolphins also eat shrimp, and certain fresh-water species possibly utilize some plant material. The killer whale varies the fish diet by attacking any other mammal found swimming in the water. The baleen whales feed by cruising with their large mouths agape, taking in planktonic crustacea, especially the euphausiids and copepods, and the pteropods. Occasionally, schools of small fishes are also engulfed. One baleen whale was found to have 2 tons of plankton in its stomach.

Some whales undertake long seasonal migrations extending over vast stretches of the oceans. They nevertheless may be rather sharply aggregated in definite localities at the different seasons, probably because of availability of food more than any other factor. These areas were called "grounds" by the old-time whalers and were given individual names.

Whales are comparatively intelligent animals. The brain is large, and the cerebral hemispheres are extensively convoluted. Studies of the play behavior and other activities of the bottlenose dolphin by McBride and his associates at the Marineland Aquarium in Florida have led them to rank the intelligence of this cetacean as lying somewhere between that of the dog and the chimpanzee (McBride and Kritzler 1951).

CETACEANS OF THE GULF OF MEXICO

The cetaceans of the Gulf of Mexico are not at all well-known, as far as actual records go, and it is only in recent years that some of the common porpoises and dolphins have been recorded. It may be assumed that practically all species known to the western subtropical Atlantic are found in Gulf waters.

Most actual records are known from infrequent strandings which have largely gone unnoted in the literature. The whalers of a century ago combed the seas of the world rather thoroughly, but they found no reason to sail often into the Gulf of Mexico or the Caribbean Sea. The closest whaling ground of any consequence was the "Charleston Ground" off the South Atlantic coast of the United States (Townsend 1935). This fact and the relative infrequency of strandings indicate that the cetacean population of the Gulf of Mexico, especially of larger species, is small in numbers.

In the following account only those species known from actual records are treated individually. Other species likely to be present are listed together.

Suborder ODONTOCETI. Toothed Whales

Family PHYSETERIDAE. Sperm Whales

***Physeter catodon* Linnaeus. Sperm Whale**

This is the largest of the toothed whales and the largest predatory animal that ever lived on

earth. It is the one mammal swimming the seas for which the killer whales show some respect. The largest known males attain a length of 65 feet. Females are only about half this size or less. The sperm whale lives largely on giant squid which it seeks out at great depths. One was found entwined in a broken trans-Pacific cable which had to be raised from a depth of a thousand fathoms. It also feeds on octopuses and fishes.

There is no dorsal fin. The head is huge and rectangular, but the jaw is long and narrow. Teeth are present only in the lower jaw. The color is almost black above shading to lighter below. It is social in habit and was reported to congregate in schools of hundreds during days of former abundance.

This whale was the prime prey of the old-time whalers because it is a relatively slow swimmer, does not often sink when killed, and has large amounts of oil, a great part of which is stored in the head. Spermaceti, used in making fine candles, is also found in quantity in this whale. It is also the producer of the somewhat fabulously valuable ambergris, a substance now largely replaced by synthetic chemicals. Pursuit of this whale was started in the eighteenth century and was at its height during the middle of the nineteenth. Townsend (1935) plotted the locality of capture of 53,877 whales by 744 vessels on 1,665 voyages out of New England ports from 1761 to 1920. He had logs of something less than 10 percent of the American vessels operating during this time. His data show that between 60 and 100 sperm whales were taken in the Gulf during this period. The total from all ships must have been closer to a thousand. None were taken in the western Gulf, and the westernmost was a little beyond the mouth of the Mississippi. All captures were made in the months of March to July. A slightly greater number were taken in the Caribbean Sea. All Caribbean catches were made in March, April, and May, as the whales returned from the south. Townsend's maps indicate strikingly, as the whalers well knew, that the sperm whale goes south of the Equator in winter and returns to northern temperate waters in summer, staying mostly between the parallels of 50° N. and S.

One stranding of a sperm whale on the east Texas coast was reported by Newman (1910). Moore (1953) has recorded two strandings on the west Florida coast in 1939. One was a fetal male.

Family KOGIIDAE. Pygmy Sperm Whales

Kogia breviceps (Blainville). Pygmy Sperm Whale

The pygmy sperm is an uncommonly reported cosmopolitan animal which possibly is often confused with larger porpoises and thus thought to be rarer than it actually is. The maximum length is around 13 feet. It is more or less black and has a dorsal fin. Like its larger relative, it has teeth only in the lower jaw and produces spermaceti. As far as is known, it lives largely on cuttlefish. Enders (1942) has given a description and listed much of the literature on strandings.

Moore (1953) reported the stranding of a female 9½ feet long on the beach of Pinellas County, Florida, in November 1949. It gave birth to a calf 5 feet 4 inches long, weighing 181 pounds. This is the only known record from the Gulf of Mexico.

Family ZIPHIDAE. Beaked Whales

The beaked whales are related to sperm whales and produce spermaceti. They have prolonged snouts similar to the dolphins and have only two teeth, both in the lower jaw. They have a dorsal fin. The midpoint of the flukes projects, and there are two grooves along the throat.

Ziphius cavirostris Cuvier. Goose-beaked Whale

This is a cosmopolitan animal which attains a length of 20 feet. The color may be black to gray above and sometimes white on the head and back. The two teeth are in the tip of the lower jaw. Moore (1953) has listed strandings in Pasco and Manatee Counties on the Florida Gulf coast and one on the west side of the Keys.

Other Beaked Whales

True's beaked whale, *Mesoplodon mirum* True, is known from the southeastern United States coast and probably enters the Gulf. It reaches a length of 16 feet and is dull black above. The teeth are on the outer tip of the jaw. The Gulfstream beaked whale, *Mesoplodon europaeus* (Gervais), has been reported from the ocean side of Key Largo in 1935 (Moore 1953). This is very close to the Gulf, and the species is to be expected there.

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Family DELPHINIDAE. Porpoises and Dolphins

These are small to medium-sized toothed whales with numerous uniform teeth in both jaws. Some enter fresh water, and some species in South America, India, and China live there entirely.

The dolphins of the ancients were mammals. During the time of heraldry the word was confusedly applied to both the mammals and a fish. Today, the double usage still exists, and in popular usage the term is more often applied by laymen, at least in the United States, to the fish, *Coryphaena*. The true dolphin is a delphinid with a beak-like snout. The porpoises have a rounded snout, more or less flush with the mouth. The difference is not recognized by laymen, who usually refer to all members of this group as porpoises.

***Stenella plagiodon* (Cope). Long-snouted Dolphin**

The approximate size limit of this dolphin is 7 feet in length. It is found on the South Atlantic coast of the United States and most of the Gulf of Mexico. It was only recorded from the western Gulf a few years ago (Gunter 1941). Moore (1953) has given many records for Florida, some of which indicate that the animal leaves northern Florida waters in winter. Lowery (1943) records it from Louisiana. It is common in offshore waters and is quite often seen in schools of 50 or more. The habitat is oceanic, and it is seldom seen within 12 miles of the beach. The base color is purplish gray, and the back is thickly studded with white spots. Calves are uniformly gray. This dolphin often swims just ahead of ships and plays about them for long distances. It feeds on fish (Kellogg 1940). The southward extension of its range and most points concerning its natural history are unknown.

***Steno bredanensis* (Lesson), 1817. Rough-toothed Dolphin**

Miller (1924) reported one specimen from Tampa in 1902. The skeleton is in the U. S. National Museum. This dolphin is known from the warmer Atlantic and Indian Oceans. Moore (1953) questioned the record on the ground that the specimen might have been brought in aboard ship.

***Tursiops truncatus* (Montague). Bottlenose Dolphin**

This is the common "porpoise" of the Atlantic coast of the United States and the Gulf of Mexico. It also lives on the European coasts. The largest males reach a length of 12 feet. The color is almost uniformly purplish gray on the back shading to lighter beneath. A dorsal fin is present.

This dolphin inhabits shallow coastal waters and is often found in low salinity bays and very shallow water. Occasionally, it is seen 4 or 5 miles out to sea. More is known of its habits and life history than of any other cetacean. True (1891) observed the animals taken in a commercial fishery for them in North Carolina and recorded many facts. Wislocki and Enders (1941) were able to study placentation and fetal membranes more completely than has been done for any other cetacean. Gunter (1942) made some contributions to natural history, especially concerning food habits in Texas bays. There have been several observations of this animal in captivity beginning with Townsend (1914). McBride and his associates have made particular studies of behavior, intelligence, birth and postnatal care as exhibited by these dolphins at Marineland, Florida. The most recent paper is that of McBride and Kritzler (1951).

In the Texas bays they often venture out on to the flats near shore in pursuit of mullet, *Mugil cephalus* Linnaeus, which forms a very high percentage of their diet. In deeper waters they subsist mainly on the sand trout, *Cynoscion arenarius* Ginsburg, the spot, *Leiostomus xanthurus* Lacépède, and the croaker, *Micropogon undulatus* (Linnaeus). Nevertheless, they will feed upon almost any species of fish and have been reported to eat the hardhead catfish, *Galeichthys felis* Linnaeus, first chopping them in two just back of the dorsal spine. Sports fishermen complain because they chop tarpon and sailfish off of lines after they are hooked. They are also known to eat sting rays. They will even ingest very small specimens of needle gar (*Strongylura*) and puffers (*Sphoeroides*). They apparently feel an enmity toward sharks and sometimes engage in vicious battles with them. Their stomachs have been found containing large hunks of shark flesh. Although they have from 22 to 24 peg-shaped teeth in each jaw, dolphins prefer to swallow their prey whole, and if fishes are removed from their stomachs after being recently swallowed, they are found to have not a scale disturbed. One shrimp, *Penaeus setiferus* (Linnaeus), was found among some 500 fishes taken from dolphin stomachs in Texas. The late E. A. McIl-

henny has reported finding dolphins with a bucketful of freshly eaten shrimp in their stomachs. Kleinenberg (1938) reported finding one shrimp among thousands of fishes in the stomach of this dolphin in the Black Sea. The bottlenose dolphin causes considerable trouble to the shrimp fishermen because it tears holes in their trawls in efforts to get at the fish and shrimp within. They report that the animal can distinguish change in the engine beat when the trawl is lowered and will come from long distances to where a drag is being made.

Wislocki and Enders (1941) have shown that the embryos are carried in the left uterine cornu. Gunter (1942) has shown that the length of dolphins at birth is 44 inches and more. Several stillbirths and some successful ones have been observed by McBride and Kritzler. In all cases the young were born tail first. The mother does not bite the umbilical cord in two but whirls in a characteristic fashion and breaks it. The baby makes its way unaided to the surface at once and begins to breathe. In cases of stillbirth, however, the mother tries to lift the young, sometimes being aided by other females. Moore (1953) found a female in the wild holding her decayed young to the surface. He judged the baby had been dead at least 3 days. The babies post themselves a little above and behind the dorsal fin of the mother. Other females apparently try to help the mother in protecting the young and often the little dolphin swims between the mother and another female. From the time of birth they can swim fast enough to keep up with adults swimming at a fairly high rate of speed. When a baby is temporarily lost from its mother, it swims in a tight circle and whistles until she comes. The preceding information is taken from McBride and Kritzler (1951).

Dolphins can be overtaken with outboard motorboats at a speed of 22 miles per hour. The maximum speed of 60 miles per hour often popularly accredited to these animals is a preposterous overestimate.

Male porpoises fight viciously during breeding periods and acquire many scars from these battles. They are sometimes seen milling about in water tinged with their blood. Gunter (op. cit.) found that the size of the fetuses increased from December to April, and the first young were taken in April. On the other hand, McBride and Kritzler (op. cit.) think that there is no special breeding season. They say that the calves are nursed for 18 months and that the females in captivity do not reproduce more than once every 2 years.

The bottlenose dolphin seems to rank rather high in the intellectual scale of the mammals. In captivity the young have been observed to invent little games which are played alone or with the help of a human partner. Interested readers should consult McBride and Kritzler (op. cit.) and papers cited therein.

The numbers of these dolphins are not extensive enough for any commercial enterprise to be centered on them, although their flesh is good food. They have not been the cause for declines of fishes as is sometimes stated. They were present in much greater numbers years ago, when apparently all life in the shallow bays was also more abundant, and they seem to have declined in numbers during the past 50 years. Writers of years ago reported that the bays of the Gulf coast formerly teemed with these dolphins. Now they are numerous only in the passes leading from the bays to the Gulf.

Grampus orca Linnaeus. Atlantic Killer Whale

This species is widely distributed in the seas of the world. There is a different species in the North Pacific. As Kellogg (1940) said, they fear nothing that lives. They usually travel in packs and ferociously attack all other marine mammals including the larger whales. They grow to a length of 22 feet or more and have capacious gullets which enable them to swallow seals and the smaller porpoises whole. Their diet is varied by larger fishes.

The high dorsal fin and conspicuous white spots back of the eye and under and behind the dorsal, and the white belly are identifying marks. The latter area extends up on the side posteriorly.

Moore (1953) has given several records from the Atlantic side of south Florida. There are no records from the Gulf, based on actual specimens, but they are to be expected, and one was sighted 35 miles southeast of Port Aransas, Texas, in the summer of 1951 by Capt. R. C. Van Zandt, who is well acquainted with the Pacific species and its depredations on the west coast of Mexico.

***Globicephala macrorhyncha* (Gray). Short-finned Blackfish or Pilot Whale**

Blackfish are large, black oceanic porpoises which feed largely on squids and fishes. They travel in large schools. The globular head, especially of the males, is a distinguishing character. They attain a length of 20 feet. Lowery (1943) made photographs and measured several specimens of a school of 49 which were found stranded on the beach near Bayou Lafourche, Louisiana, following the hurricane of August 1940. Gunter (1946) recorded four specimens from the Texas coast and two probable records, all from strandings. Since then, three other strandings have come to attention, and another skull was obtained. These were all from Mustang and Padre Islands, one coming from Brazos Santiago at the southern tip of Texas. One small school was seen near the beach of Mustang Island in October 1949. Lowery recorded this porpoise under the name of *G. ventricosa* (Lacépède), the North Atlantic species, and the writer followed his conservatism. All specimens the writer has seen have the short fin described by Cope, and it has been concluded that his *brachyptera* is definitive for the Atlantic and Gulf species of the southern United States. It is, however, only a synonym of *Globicephala macrorhyncha* (Gray) as recently shown by Fraser (1950). This animal is found over the tropical Atlantic.

The blackfish is noted for following the leader into the beach and stranding, thus the name pilot whale, and for making bellowing, grunting noises at these times. Moore says strandings of this species exceed all others put together in Florida, and he has recorded instances of 46 and 200 animals stranding at one time.

Other DELPHINIDAE

The following species are not recorded from the Gulf of Mexico but may be expected:

The common dolphin, *Delphinus delphis* Linnaeus, is known from most tropic and temperate seas. It usually is found more than 10 miles offshore but has been known to invade rivers. The closest known record is Miami, Florida (Moore, op. cit.). The same writer lists *Stenella frontalis* (Cuvier) from Dade County and *S. longirostris* (Gray) from the Bahamas. These tropic and Southern Hemisphere dolphins may enter the Gulf. The false killer, *Pseudorca crassidens* (Owen), has been recorded from Broward County on the southeast Florida coast. The grampus, *Gamphidelphis griseus* Cuvier, may be expected because of its general distribution.

Suborder MYSTICETI. Baleen Whales

Family BALAENOPTERIDAE. Finbacks, Rorquals

***Balaenoptera physalus* (Linnaeus). Common Finback**

Lowery (1943) listed three records of *Balaenoptera* sp. stranding on the Louisiana coast. There have been strandings of baleen whales on the Texas coast, but these animals have not been definitely identified or recorded, with one exception. On February 21, 1951, a small whale, 18 feet long, was found on the beach 22 miles east of Galveston. It was the common finback and was evidently very young and probably newborn. An account has been given by Breuer (1951). This is the only definite record from the Gulf of Mexico.

***Balaenoptera acutorostrata* Lacépède. Piked Whale**

One specimen washed ashore on the Gulf beach of Wakulla County, Florida, in 1940. The remains of the skeleton were examined by Moore (op. cit.). There are several records from New England, but this whale is probably rare in southern seas.

Other Baleen Whales

The above two species are the only baleen whales definitely recorded from the Gulf of Mexico. The Sei whale, *Balaenoptera borealis* Lesson, and the humpback, *Megaptera novaeangliae* (Borowski), may be expected. Townsend's (1935) whaling records showed that the humpback was taken north of Haiti and in the Lesser Antilles and within 70 miles of the Florida Keys. The blue whale or sulphur bottom, *Sibbaldus musculus* (Linnaeus), may also be expected in the Gulf. This species is known to attain a length of 103 feet and is the largest animal that ever lived. Baughman (Jour. Mammal., vol. 46, pp. 392–393, 1946) gave a record of a baleen whale 70 feet long which stranded north of Freeport in 1940. From photographs he concluded it was *Sibbaldus musculus*, but there is no confirmation.

LITERATURE CITED

ALLEN, G. M.
1942. Extinct and vanishing mammals of the Western Hemisphere with the marine species of all the oceans. Spec. Pub. No. 11, Am. Comm. Internat. Wild Life Protection, pp. 1–620.

ALLEN, J. A.
1887. The West Indian seal (*Monachus tropicalis*). Bull. Am. Mus. Nat. Hist. 2: 1–34, pls. 1–4.
BREUER, J. P.
1951. Gilchrist's whale. Texas Game and Fish 9: 24–25.
ENDERS, R. K.
1942. Notes on a stranded pygmy sperm whale (*Kogia breviceps*). Notulae Naturae, 111: 1–6.
FRASER, F. G.
1950. Two skulls of *Globicephala macrorhyncha* (Gray) from Dakar. Atlantide Rept. 1: 49–60.
GUNTER, G.
1941a. Occurrence of the manatee in the United States with records from Texas. Jour. Mamm. 22: 60–64.
1941b. A record of the long-snouted dolphin, *Stenella plagiodon* (Cope), from the Texas coast. Jour. Mamm. 22: 447–448.
GUNTER, G.
1942. Contributions to the natural history of the bottlenose dolphin, *Tursiops truncatus* (Montague), on the Texas coast, with particular reference to food habits. Jour. Mamm. 23: 267–276.
1946. Records of the blackfish or pilot whale from the Texas coast. Jour. Mamm. 27: 374–377.
1947. Sight records of the West Indian seal, *Monachus tropicalis* (Gray), from the Texas coast. Jour. Mamm. 28: 289–290.
HARLAN, R.
1824. On a species of lamantin resembling the *Manatus senegalensis* (Cuvier), inhabiting the coast of east Florida. Jour. Acad. Nat. Sci. Philadelphia 3: 390–394.
HATT, R. T.
1934. The American Museum Congo Expedition manatee and other recent manatees. Bull. Am. Mus. Nat. Hist. 66: 533–566.
JEFFREY, LELA M.
1951. A review of certain aspects of cetacean physiology. Texas Jour. Sci. 3 (4): 542–553.
KELLOGG, R.
1940. Whales, giants of the sea. Nat. Geog. Mag. 67: 35–90.
KLEINENBERG, S. E.
1938. Quelques données sur l'alimentation de *Tursiops tursio* Fabr. dans la Mer Noire. Bull. Soc. Nat. Moscou 47: 406–413.
LOWERY, G. H., JR.
1943. Check-list of the mammals of Louisiana and adjacent waters. Occ. Papers Mus. Zool., Louisiana State Univ., 13: 213–257.
MCBRIDE, N. F., and KRITZLER, H.
1951. Observations on pregnancy, parturition, and postnatal behavior in the bottlenose dolphin. Jour. Mamm. 32: 251–266.
MILLER, G. S.
1924. List of North American recent mammals, 1923. Bull. U. S. Nat. Mus. 128: 1–673.
MONOD, T.
1923. Note sur la presence de *Monachus albiventer* sur la côte saharienne. Bull. Mus. d'Hist. Nat. Paris 29: 555–557.
MOORE, J. C.
1951. The range of the Florida manatee. Quart. Jour. Florida Acad. Sci. 14: 1–19.
1953. Distribution of marine mammals in Florida waters. Amer. Mid. Nat. 49: 117–158.
NEWMAN, H. H.
1910. A large sperm whale captured in Texas waters. Science, N. S., 31 (799): 631–632.
SINCLAIR, J. G.
1950. Some adaptive features of the porpoise head. Texas Jour. Sci. 2: 139.
TOWNSEND, C. H.
1914. The porpoise in captivity. Zoologica 1: 289–299.
1923. The West Indian seal. Jour. Mamm. 4: 55.
1935. The distribution of certain whales as shown by logbook records of American whaleships. Zoologica 19: 3–50, 4 loose maps.
TRUE, F. W.
1884. The sirenians or sea-cows. The Fisheries and Fishery Industries of the United States. Sec. 1, Natural History of Useful Aquatic Animals, U. S. Comm. Fish and Fisheries, pt. 1, art. C, pp. 114–136, pls. 33, 34.
1891. Observations on the life history of the bottlenose porpoise. Proc. U. S. Nat. Mus. 13: 197–203.
—— and LUCAS, F. A.
1884. On the West Indian seal (*Monachus tropicalis*, Gray). Rept. U. S. Nat. Mus. 884: 331–335, pls. 1–3.
WISLOCKI, G. B., and ENDERS, R. K.
1941. The placentation of the bottle-nosed porpoise (*Tursiops truncatus*). Am. Jour. Anat. 68: 97–125.