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MISSISSIPPI MANATEES

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ABSTRACT The taxonomy and the distribution of the American manatee *Trichechus manatus* are reviewed briefly. Its distribution extends from 50°N on the eastern coast of North America to 19°S in South America. Records from the northern Gulf coast are given including sightings from Mississippi in January 1979, and one from the open ocean off Louisiana in July 1979. A live manatee was captured in the Gulfport, Mississippi, Harbor in January 1979, and was transported to Sea World in Orlando, Florida. It still lives there in good condition. A carcass of a female was found near the eastern end of Ship Island in January 1980, and was autopsied at Sea World.

Members of the monotypic genus of the Bering Sea sea cow, *Hydrodamalis*, are all dead. The dugongs live only in the Indian and Pacific oceans and connecting waters. These and the manatees, *Trichechus*, comprise all of the recent survivors of the mammalian order Sirenia. They all began to decline in numbers with the age of discovery and exploration.

The manatee¹ lives in the rivers of West Africa, the Amazon and Orinoco of the New World, the coast and rivers of northeastern South America, the West Indies, Florida, and the eastern coast of Mexico north to Texas and Louisiana. If the summer distribution of the West Indian manatee is included, the area extends from North Carolina (see Brimley 1931) to the northern Gulf of Mexico coast, or essentially the northern edge of the Carolinian zoogeographic zone.

The African manatee is called *Trichechus senegalensis* Link 1795. This species is isolated from all others. The inland manatee of South America, *T. inunguis* (Natterer), is found in the Amazon and Orinoco rivers and is isolated from the coast species, which is *T. manatus* Linnaeus 1758.

The South American manatee, according to True (1885), extended along the coast to Brazil at 19°S. Exact limits were unknown but manatees have not been reported in Argentina; they were found northward into Middle America and the Caribbean Islands to the United States at 50°N. These animals used to occur apparently all over the Indies and were seen by Columbus on his first trip. They were found also over most of Florida.

Harlan (1824) separated the Florida manatee from the South American manatee, although there was no line of demarcation or a distributional break and, in fact, True (1885) said the manatee of the West Indian Islands and of the eastern coast of Mexico into Texas was the Florida manatee. No real differences between the species were set forth by Harlan, or by True who said merely that the

examination of the skulls in the National Museum convinced him there were two species. Similarly, Hatt (1934) set forth no differences in the subspecies when he followed Harlan to that extent, except in the width-depth proportions of the foramen magnum. These facts were clearly set forth by Allen (1942). Moore (1951) pointed out that this distinction did not hold up in the skulls that he examined, as noted by Gunter (1954). Gray (1865) and von Frantzius (1869) did not believe there were two species. So here we had a population of manatees extending from northern Florida to the western Gulf, through the Indies and Caribbean region, southward along the coast of South America to Brazil, supposedly divided into two subspecies but with no distinctions described or ever set forth. All of this in a population of big strong animals weighing up to more than 1,000 pounds and well able to travel long distances, and which in one instance, at least, crossed the North Atlantic to the Shetland Islands (see True 1885).

This reminds us of the case of the American grizzly bear which was divided into over 80 species in the American West although individual home ranges were 80 miles or so in diameter. This was accepted for a long time by zoologists because of the patriarchal authority of the author rather than the wisdom of his decisions. Thus, we do not now accept the subspecific division of the American saltwater manatees. The case is most unlikely. We never discussed this matter with the late George H. Lowery, Jr., but in preparation of this account the senior author read his remarks in Lowery (1974). He rejected the subspecific idea just as did Gunter (1954). Doctor Lowery was a master naturalist and his words on the subspecies of manatee are worth emphasis; they are quoted here in full from Lowery (1974, p. 482):

Subspecies

Trichechus manatus subspecies?

Type locality, restricted to West Indies by Thomas (*Proc. Zool. Soc. London*, 1911:132).

Hatt (1934) recognized two geographical races in this species: *T. m. manatus* Linnaeus (1758), occurring on the coasts and in coastal rivers of the West Indies and the adjacent mainland from southern Veracruz

¹The lexicographer H. L. Mencken (1945) listed this beast as the manati. The Spanish and English spellings were the same until Dampier (1703-05) introduced a new English spelling as manatee in 1703.

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to northern South America, and *T. m. latirostris* (Harlan, 1824), occurring along the coast and in coastal rivers of the southeastern United States from North Carolina southward to southern Florida and westward along the northern Gulf Coast to Texas. The two alleged races are, however, of doubtful validity. The one character that Hatt believed to be diagnostic was the ratio of the greatest vertical diameter of the foramen magnum to its greatest horizontal diameter. He stated that in Florida specimens examined by him the indices ranged from 0.54 to 0.61. In Guatemalan examples the corresponding indices ranged from 0.66 to 0.71, and in a Puerto Rican manatee the index was "something over 0.70." More recently, Moore (1951) has shown that eight manatees from one locality in Florida (Jupiter, Palm Beach County) have indices varying from 0.59 to 0.74, which seem to negate the usefulness of this character in separating *manatus* from *latirostris*. He further pointed out that two Texas specimens from which he was able to obtain measurements possessed indices of 0.515 and 0.765, again demonstrating a wide range of variability in this character. He gave the horizontal and vertical dimensions of the one specimen from Louisiana as 60.5 and 36.1, respectively, with the ratio being 0.597. My own measurement of the vertical diameter of the foramen magnum of this particular specimen is 32 mm (instead of 36.1), which makes the aforementioned ratio 0.529. Paradoxically, despite Moore's contention that the character is unreliable, he still referred the Texas material to *manatus* and argued that the occasional manatee found on the Texas coast represents an extension northward from the coasts of Central America and not an extension northward and westward from Florida. Since the species is extremely rare on the northern Gulf Coast anywhere from eastern Texas to the upper coast of the Florida Peninsula yet is regularly present on the coasts of Veracruz and Tamaulipas, I have no doubt that Texas and Louisiana occurrences represent individuals that have wandered northward from the Gulf and Caribbean coasts of southern Mexico and Central America. But my conclusion is based on zoogeographical probabilities and not on any subspecific differences that may or may not be displayed by the specimens available.

Today, due to decline in the numbers of manatees, we have fairly disjunct stocks in Florida with few left in the Indies but with a group in Middle America and Mexico, some of which occasionally migrate northward to southern Texas in summer. Similarly in Florida, individuals migrate north in summer to North Carolina and Virginia. Apparently Bangs (1895) first noted this northward summer migration.

For the past 60 years, at least, Percy Viosca, Jr., in Louisiana, and George H. Lowery, Jr., in the same state,

have watched for manatees in that state and in Mississippi, while the senior writer has tried to keep up with sightings in Texas. One carcass was found in western Louisiana by Stanley C. Arthur and the skull was deposited in the U.S. National Museum. One probable report of an animal in eastern Texas was found and recently an animal was seen in Lake Catherine, Louisiana (Lowery 1974). There are no reports from Mississippi except very recently. Silas Sterns reported one from Santa Rosa Sound in northwestern Florida many years ago (True 1885). In the western Gulf there are several reports during the last 75 years from southern Texas in the neighborhood of the Rio Grande and northward to the locale of Aransas Bay and Aransas Pass. These were summarized by Gunter (1954) up to then. Thus it seems clear that the manatees come up the warm subtropical shores of the eastern and western Gulf of Mexico but they fade very quickly in the northern Gulf; they have been seen there not much more often than in North Carolina and Virginia.

For many years there has been a mounted skeleton of a manatee in the Department of Zoology of the University of Texas at Austin. It was reputed to have been identified as a "South American manatee" by E. D. Cope when he visited the University in the early part of this century. My efforts as a student in the 1930's uncovered no written record on this specimen. But I believe it came from the Texas coast and was designated as a South American manatee by Cope because he knew of the migrations of manatees to the northern Gulf in the summer.

No one has found or reported the vast agglomeration of blackened manatee bones which Silas Sterns said existed between Pensacola and New Orleans *vide* True (1885), and this statement is a puzzle. And no one has reported live or dead manatees in Alabama and Mississippi until very recently. Then, when a few were seen in Mississippi Sound, numerous people came forth with statements to the effect that manatees had been present in the backwaters of the coast for years. This is highly doubtful.

MISSISSIPPI RECORDS

During the first days of January 1979, reports of sightings of manatees in the backwaters to the landward of Mississippi Sound and Biloxi Bay began to come in to the Gulf Coast Research Laboratory (GCRL) and in to the Mississippi Department of Wildlife Conservation, Bureau of Marine Resources. A norther had blown in and the waters were cool and because of the well known sensitivity of manatees to cold these reports were not given much credence. One report came from the Wolf River. But the reports persisted and soon began to come from the landward side of Mississippi Sound. Finally reports came from the Gulfport Harbor. The animal was caught once in nets, but it escaped and next day, on January 7, 1979, it was caught by a crew from Sea World in Orlando, Florida. It was transported to that aquarium. It was a male, 9 feet long, weighing 830 pounds.

The animal was found to be suffering from a respiratory infection; it was treated with antibiotics and vitamins. On September 30, 1979, it was reported to weigh 1,000 pounds and to be close to sexual maturity.

At least six Florida newspapers besides two local papers, *The Sun* and *The Daily Herald*, and Alabama and Tennessee papers carried photographs and stories about this sea cow. At the present date (November 20, 1980), the animal is doing well with two other manatees as companions, a mature female and a young male his own age.

During January 2–5, 1979, the water temperatures ranged from 8° to 15°C and averaged 11.6°C at Gulf Coast Research Laboratory stations 1, 3, 10, 11, 18, 21, and 30, in Mississippi Sound and Biloxi Bay. The Biloxi air temperatures for January 2–8, 1979, were between 5.5° and 8.5°C. The salinity at the seven stations listed ranged from 4.0 to 22.0 ppt and averaged 12.9 ppt.

There was more than one manatee involved in these sightings on the Mississippi coast in 1979, although the evidence assures nothing except their plurality. When manatees were first reported in the coastal waters of Mississippi, the brothers George and Walter Roth became dissatisfied with their conception of the appearance of manatees and so they traveled to Florida by bus seeking views of captive manatees in various public aquaria. The writers are not clear on where they went, but they satisfied themselves and returned home in a few days.

They reported seeing a live manatee at the surface near the Hercules Fishing Camp on the westernmost distributary of the Pascagoula River on January 18, 1979. One of the brothers went with the senior author to this camp and pointed out the exact locality. He also drew a pencil sketch of the animal as it appeared while swimming away "rapidly" at the surface towards the main river. This fishing camp is in the delta region of the Pascagoula, about one-half mile from Mississippi Sound. If this sighting was valid it means the manatee had lived through a fairly cold spell on the Mississippi coast or had come over from Florida during a

cold spell, which does not seem to be very likely.

On July 4, 1979, James W. Wooten, a doctor of dental surgery, who lived at 1203 Nelson Road in Ocean Springs, went fishing in the Gulf of Mexico with two companions in one boat. While about 12 miles east of Breton Island, Louisiana, a manatee surfaced about 30 feet from his boat; all three people got a good look at the rounded tail and the face. The animal was estimated to weigh 300 pounds. Numerous water hyacinths were floating at this location. The location was estimated by dead reckoning. Assuming it to be correct the water was about 8 fathoms deep and the location was south of the western end of the Chandeleur Islands and probably outside of the seaward boundary of Louisiana and on the high seas.

On January 3, 1980, a female manatee carcass 230 cm long and weighing 530 pounds was reported to the National Fish and Wildlife Laboratory of Gainesville, Florida, by Mike Brown, ranger of the Gulf Islands National Seashore. It was located one fourth of a mile east of the eastern tip of Ship Island in Harrison County, Mississippi. It was picked up on January 4, and carried to Gainesville. The veterinarian's report was written on January 8, 1980, and a copy came to the senior author 10 months later. The digestive tract contained nothing and the cause of death was listed as anorexia and cold stress.

In summary, a cold-stressed male manatee was captured in the harbor of Gulfport, Mississippi, in January 1979. On July 4, 1979, a wild manatee was reported about 8 miles off the Louisiana coast on the high seas. On January 3, 1980, the carcass of a female manatee was found near the eastern end of Ship Island, Harrison County, Mississippi; the cause of death was thought to be cold and starvation.

Manatees have visited the Mississippi coast in two successive winters—1979 and 1980—and nearby waters in the summer between. It is surmised that these manatees came from Florida. With the exception of newspaper reports about the same animals, these are the first published records of manatees in Mississippi waters.

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